# Effective Professional Development:

# What the Research Says

InPraxis Group Inc.

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# Effective Professional Development: What the Research Says

InPraxis developed this report for the School Improvement Branch, Basic Learning, Alberta Education.

It was contracted as a result of the Alberta Commission on Learning recommendations and professional development initiatives linked to the Alberta Initiative for School Improvement. It is intended to support school authorities by summarizing research on professional development.

This report summarizes many influences on professional development, and explores commonalities in the indicators of effective professional development.

It also examines the role of evaluation of professional development initiatives and provides a synthesis of common elements of effective evaluation practices.

This document does not cover the work currently being done in Alberta by our education partners.

The views in this paper are those of the author and do not necessarily reflect those of Alberta Education.

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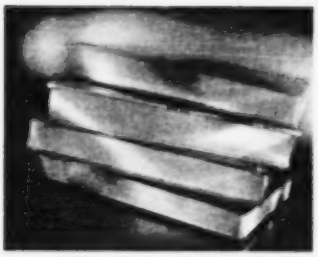
# Section 1

## Conceptions and understandings of professional development



## Conceptions and understandings of professional development

What is professional development? What makes it effective? Although the term, along with associated terms, such as staff development, training and inservicing, has been around for many years, conceptions of what professional development[1] is have become broader and more multi-faceted.[2] There is increasing recognition of the many different factors that influence the extent to which professional development is considered effective.

> *Within the context of Alberta's public school system, the Alberta Teachers' Association defines professional development as the wide range of activities teachers do individually or collectively to improve their professional practice and enhance student learning.*[3]

Although professional development can be defined in different ways, many educators would describe professional, or staff, development as opportunities for teachers and other education personnel to take part in conferences, workshops or in-services either in short-term or ongoing, long-term contexts. These opportunities are often offered through schools, school districts, educational organizations and professional associations. It is becoming increasingly evident, however, that a single view of what constitutes effective professional development is no longer relevant and meaningful in today's educational climate.

> *Professional development has traditionally been provided to teachers through school in-service workshops. In the classic conception of that model, the district or school brings in an outside consultant or curriculum expert on a staff development day to give teachers a one-time training seminar on a garden-variety pedagogic or subject-area topic. Such an approach has been routinely lamented in professional literature. Experts variously say that it lacks continuity and coherence, misconceives the way adults learn best and fails to appreciate the complexity of teachers' work.*[4]

Alternative definitions of professional development address many factors that affect the multiple contexts in which professional development can be implemented—the formation of learning communities, the recognition of multiple roles within the professional life of teachers, the development and impact of leadership skills and the provision of support, the necessity to deal with uncertainties and explore authentic problems and challenges, and the importance of centring efforts on student learning and achievement. Both practitioners and researchers are recognizing that the process of professional development is just as important to its definition as is the content. Darling-Hammond and McLaughlin define professional development as "deepening teachers' understanding about the teaching/learning process and the students they teach," which "must begin with preservice education and continue throughout a teacher's career." They state that "effective professional development involves teachers both as learners and teachers, and allows them to struggle with the uncertainties that accompany each role."[5]

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[1] This report uses the term professional development in a context that encompasses other related terms, such as staff development, training and in-service.
[2] Lieberman (1995). See also Garet, Porter, Desimone, Birman and Yoon (2001).
[3] Alberta Teachers' Association (2001).
[4] Education Week, Research Centre: Issues A–Z (2005). Retrieved from www.edweek.org/rc/issues/professional-development (February 15, 2005).
[5] Darling-Hammond and McLaughlin (1995, p. 598).


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The National Staff Development Council (NSDC) uses the term "staff development" to encompass this broader understanding.

> *Attending classes, workshops or conferences is one way that teachers, and other school employees, learn some of what they need to know. But other types of staff development are just as important and, often, more effective than traditional sit-and-get sessions. For example, when teachers plan lessons together or study a subject together, that's a form of staff development. A teacher who observes another teacher teach is also participating in a form of staff development. If a teacher is being coached by another teacher, that's staff development. Visiting model schools, participating in a school improvement committee, writing curriculum, keeping a journal about teaching practices – all of those can be staff development activities.*[6]

As the definition of professional development continues to expand, more attention is being paid to the impact of multiple contexts and environments on decision making related to professional development. *A Framework for Reviewing Professional Development Policies and Practices*, developed by the Consortium for Policy Research in Education, presents questions that focus on factors that should be considered in developing a meaningful definition of professional development.[7]

- How is professional development defined by teachers, district administrators, state officials and legislators? How is it defined in collective bargaining agreements and in law and regulation?
- What activities fall within these definitions? What falls outside them?
- Are prevailing definitions consistent with current thought about high-quality professional development?
- Is participation in professional tasks that leads to acquisition of new knowledge or skills treated as professional development?
- How much responsibility for professional development is placed on the teacher, on the school and on the district?
- Who decides the amount and content of professional development?

These factors recognize the many influences on the effectiveness of professional development experiences. Although "effectiveness" is often explored in the context of the professional development initiative itself, there is also increasing recognition that policy, school practices and culture, and the delineation of roles and responsibilities in school and district settings, can have an impact on those measures put in place to assess how effective a professional development initiative can be.

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[6] National Staff Development Council: Staff Development Library – Staff Development Basics (2005). Retrieved from www.nsdc.org/library/basics/whatisSD.cfm (February 15, 2005).
[7] Consortium for Policy Research in Education (1995). Retrieved from www.ed.gov/pubs/CPRE/t61/framwork.html (February 15, 2005).


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## The question of effectiveness

Over the past 10–15 years, a substantial body of literature has explored the question of effectiveness in professional development activities and initiatives. Yet, defining what makes professional development effective can be a subjective exercise at best.

> *The characteristics that influence the effectiveness of professional development are multiple and highly complex. It may be unreasonable, therefore, to assume that a single list of characteristics leading to broadbrush policies and guidelines for effective professional development will ever emerge, regardless of the quality of professional development research. Still, by agreeing on the criteria for "effectiveness" and providing clear descriptions of important contextual elements, we can guarantee sure and steady progress in our efforts to improve the quality of professional development endeavors.*[8]

What does 'effective' mean? The Merriam-Webster online dictionary defines 'effective' as producing a decided, decisive or desired effect.[9] Understandings of effective professional development have evolved substantially over the last 15 years to include the need to address multiple dimensions of professional development, and an explicit connection to a meaningful and relevant purpose centred on its effects on student learning and achievement. Changes in the way people view learning, reforms in subject matter teaching and assessment, the implementation of standards documents, increased demands for accountability and results, and a shift to conceptualizing change as a systematic and systemic process are affecting the way both professional development and effectiveness are defined.[10]

At the same time, there is a tacit recognition that although there are many articles and policy documents that describe best practice in professional development, there is still little substantive research that explicitly links professional development to improvements in teaching or on student outcomes.[11] There are gaps in the research that emphasize the need for more research directly addressed at the link between various types of professional development, and their impact on student learning and achievement.

> *Research studies are needed to determine the efficacy of various types of professional development activities, including preservice and in-service seminars, workshops and summer institutes. Studies should include professional development activities that are extended over time and across broad teacher learning communities in order to identify the processes and mechanisms that contribute to the development of teachers' learning communities.*[12]

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[8] Guskey (2003).
[9] Merriam-Webster online dictionary at www.m-w.com (February 19, 2005).
[10] See Sparks (1994). See also Little (1994) and Lee (2001).
[11] Garet, Porter, Desimone, Birman and Yoon (2001, p. 917). See also Reitzug (2002).
[12] Bransford, Brown and Cocking (1999, p. 240).


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## Changes in the way professional development is conceptualized

As the definitions of professional development indicate, beliefs about the purpose and focus of professional development have evolved from a conception centred on training teachers to become familiar with, or experts in, a particular strategy or program, to an approach that emphasizes critical thinking and reflective decision making. Up to the mid 1990s, the role of professional development in supporting school reform was an important focus. During the mid to late 1990s, questions were raised about the link between professional development and student learning and achievement, and increasingly critical issues of accountability sparked more questions about effectiveness.[13] In the past decade, the focus has shifted to discussions of the role that professional development plays in affecting teacher quality as an important indicator of student achievement.

> *Professional development is at the centre of the practice of improvement. It is the process by which we organize the development and use of new knowledge in the service of improvement.*[14]

Although many professional development initiatives have been explicitly tied to content, whether subject or initiative focused, there is growing recognition of the need to connect professional development to school improvement initiatives. In a time where teacher, school and district accountability to student success, community participation and support, and financial accountability are important influences, many professional development initiatives arise from school improvement initiatives.

The body of work related to professional development that has developed over the past 10 years is substantial. Guskey's 1995 review of research on professional development indicates that much of the work on professional development focuses on documenting the inadequacies of professional development initiatives and describing potential solutions.[15] Over the past 10 years, literature relating to the question of effective professional development has become more multifaceted and recognizes influences and issues, such as:

- the development of principles and characteristics of effective professional development
- the link between school improvement, student achievement and the purposes of professional development
- the importance of collaborative environments and communities of learning
- the nature of learning and constructivist learning theory
- the link between professional development and teacher quality
- the link between teacher quality and student learning and achievement
- the dichotomies that exist in the base of professional development literature and research; e.g., what is the consensus on effective professional development; what is really meant by 'research based' and 'data driven'; where is professional development most effectively situated—local initiatives, district-based or involving the broader educational community; the role of the expert presenter versus the application of a locally developed knowledge base; the role of content over process.

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[13] Elmore (2002).
[14] Ibid, p. 32.
[15] Guskey (1995). Retrieved from www.ncrel.org/sdrs/areas/rpl_esys/pdlitrev.htm (February 15, 2005).


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The movement for accountability in professional development initiatives has been influenced by political initiatives and policies. The *No Child Left Behind* policy of the United States has had a significant influence on school improvement initiatives, including those connected to professional development. *Success for Every Child* and *Excellent Teachers and School Leaders* are initiatives identified by the Alberta Commission on Learning. Many of the initiatives linked to *Success for Every Child* focus on meeting the needs of diverse student populations. Some deal explicitly with professional development. Other provinces have similar pushes for reform. For example, Manitoba's educational policies include *Education Agenda for Student Success*, based on the assumption that "every child has the capacity to succeed in school and in life."[16] Throughout North America, policies relating to student success, professional development, and research-based educational decision-making are linked to policy that asserts that all children can succeed.

There are also compelling assertions from more empirically-based research that affect how educators conceptualize professional development.

- There is a substantial body of research that asserts that teacher effectiveness affects student learning and achievement.[17] Research supports the link between teacher quality and student success.[18] Studies suggest that teachers who have training in and knowledge of their subject areas, strong academic skills and classroom teaching experience supported by quality professional development can have an effect on increased student achievement.
- There is also a substantial body of research that supports the premise that whole-school effectiveness has a positive impact on achievement.[19] This has implications for professional development that is locally developed and situated.
- Teachers who engage in professional development that focuses on effective classroom practices are more likely to use those practices in their classrooms. Teacher quality has a substantial impact on students' test scores. Teachers who are knowledgeable about the subject areas they teach are more likely to engage in effective classroom practices.[20]
- High-quality professional development can lead to increased knowledge and skills, and changes in teaching practice.[21]

> *Recent research suggests that the quality of a teacher is the most important predictor of student success (Darling-Hammond, 1998). A Tennessee study (Haycock, 1998) discovered that low-achieving students increased their achievement levels by as much as 53 percent when taught by a highly effective teacher. The sequence of teachers to which students were assigned also seemed to have an effect.*[22]

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[16] Manitoba Education. Retrieved from www.edu.gov.mb.ca/ks4/agenda/docs/research.html#three (February 19, 2005).
[17] See Darling-Hammond and Loewenberg-Ball (1998). See also Killion (1999) and Danielson (2002).
[18] There are a number of articles that emphasize the link between teacher quality and student achievement. See, for example, Kent (2004), Hawley and Valli (2000), Darling-Hammond (1998 and 1998a), Haycock (1998), Darling-Hammond and Loewenberg Ball (1998), Stoll and Fink (1996), Fullan (1993).
[19] See Marzano (2003). Marzano's findings and conclusions are based on a multitude of research studies into the factors that affect student achievement. See also Pritchard and Marshall (2002).
[20] See Wenglinsky (2000). See also Richardson (2003) and Porter, Garet, Desimone, Yoon and Birman (2000).
[21] See Porter, Garet, Desimone, Yoon and Birman (2000). See also Boudah and Mitchell (1998).
[22] National Dropout Prevention Centre/Network (2004). Retrieved from www.dropoutprevention.org/effstrat/profdev/profdev_over.htm (February 18, 2005).


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There are also dozens, if not hundreds, of documents that outline the principles that should form the foundation for what is described as effective, powerful or meaningful professional development initiatives. Many are based on the National Staff Development Council's *Standards for Staff Development*. Others are based on what organizations, researchers and practitioners have deemed to be most effective. Some lists of principles of effective professional development have been developed through research on professional development initiatives and programs based in schools and districts. Killion's list is one example. Her research into schools that won the U.S. National Awards Program for professional development indicated that common characteristics of effective professional development result in increased student performance. Killion found that the following principles guided professional development in those schools.

- Schools need more than strategies for improvement; they need a spirit of efficacy, responsibility and accountability to increase student learning.
- Teachers engage in diverse and extensive learning experiences.
- The freedom to select their own content and process for learning motivates and engages students in learning.
- The context of the school plays a significant part in promoting high levels of learning for teachers. Time, resources, leadership, shared governance, collaboration, focused goals and support structures are necessary to foster teacher learning.
- The principal plays a significant role in establishing a productive learning environment.
- Schools are spurred into action by external forces.
- Decisions about professional development are made both by teams and by individuals.
- As schools achieve success, their change efforts expand.
- Schools operate fairly independently of their districts.
- Frequent analyses of multiple types of data keep schools focused on results.
- Evaluation of local professional development efforts occurs in many different ways.
- All teachers, including both veterans and novices, are responsible for contributing to the successful implementation of professional development and are accountable for student achievement.
- Change is not easy.[23]

Pritchard and Marshall's list of characteristics is another example. Their study of the relationship between effective professional development practices and district health and student achievement resulted in findings that support recommendations for professional development in the literature as well as some that do not, such as basing professional development decisions on teacher needs assessments and individual choice. It also points out the role school districts can play in setting priorities and visions for professional development. The study indicates that, in healthy districts, effective professional development:

- addresses fundamental issues of curriculum and instruction as part of an integrated district strategy
- is driven by a shared district focus on learning for all professionals
- is driven by a shared building focus aligned with the district vision; format varies by purpose
- is expected as a job responsibility of every employee
- is based first on district consistency of purpose and secondarily on individual selection
- involves administrators in planning and participating in professional development activities, and emphasizes that professional development assures system excellence
- provides thematic activities targeted to the district purpose and offered over time

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[23] See Killion (1999).


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- uses assessments of district needs for setting professional development priorities
- has a protected, designated line item in budget.[24]

Porter, Garet, Desimone, Yoon and Birman[25] provide yet another conception of effectiveness based on research. Their study into the results of the Eisenhower project of professional development in the United States was structured around a list of six characteristics of effective professional development activities:

- the form or organization—whether the activity is organized as a study group, teacher network, mentoring relationship, committee or task force, internship, individual research project, or teacher research centre, in contrast to a traditional workshop, course or conference
- the duration, including the total number of contact hours participants are expected to spend in the activity, as well as the span of time over which the activity takes place
- the degree to which the activity emphasizes the collective participation of groups of teachers from the same school, department or grade level, as opposed to the participation of individual teachers from many schools
- the extent to which the activity offers opportunities for teachers to become actively engaged in the meaningful analysis of teaching and learning
- the degree to which the activity promotes coherence in teachers' professional development, by incorporating experiences that are consistent with teachers' goals, aligned with state standards and assessments, and encourage continuing professional communication among teachers
- the degree to which the activity is focused on improving and deepening teachers' content knowledge in mathematics and science.

Other lists of effective professional development characteristics are based on compilations of professional expertise and opinions, research studies and field consultations. Organizations, such as professional associations, consortia, ministries of education and school districts often develop their own lists. For example, Ontario clearly supports the role that professional development can play in developing the skills teachers need to support early literacy and math development in students through indicators of effective professional development for those initiatives.[26] School districts or consortia in the United States, such as those in Rhode Island District[27] and North Dakota,[28] have developed extensive professional development guidelines and lists of effective practices.

## What should effective professional development look like?

Although many would agree that there is a move toward some form of consensus about the importance of effective professional development experiences, there remain inconsistencies in the ways that researchers, organizations and districts define effectiveness.

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[24] Pritchard and Marshall (2002, pp. 126–134). Slavin's (2001) discussion of the district's role in comprehensive school reform also supports these premises as does Sparks' (2002) discussion of the impact of district level decision making and policies on professional development. See also National Partnership for Excellence and Accountability in Teaching (1999).

[25] Porter, Garet, Desimone, Yoon and Birman (2000).

[26] See the Web site links from the Ontario Ministry of Education at www.edu.gov.on.ca/eng/document/reports/reading/supportive.html#supporting and www.edu.gov.on.ca/eng/document/reports/math/develop.html (February 18, 2005).

[27] See Rhode Island Department of Elementary and Secondary Education's statement of Principles of Effective Practice, available at www.ridoe.net/ (February 18, 2005).

[28] See Professional Development Guidelines produced by the North Dakota Education Standards and Practices Board, available at www.nd.gov/espb/profdev/docs/prof-dev-guidelines.pdf (February 15, 2005).


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Sparks, for example, outlines a vision for professional learning based on a number of initiatives that stress the need for high-quality professional development that:

- focuses on deepening teachers' content knowledge and pedagogical skills
- includes opportunities for practice, research and reflection
- is embedded in educators' work and takes place during the school day
- is sustained over time
- is founded on a sense of collegiality and collaboration among teachers, and between teachers and principals, in solving important problems related to teaching and learning.[29]

Many researchers believe there is a common vision of professional development that emerges from the literature. For example, Reitzug outlines eight principles of effective professional development based on a broad synthesis of expert opinion, research and research-based literature.

- Decisions about professional development should be made within schools rather than at the district level.
- Professional development must be focused on instruction and student learning.
- Professional development initiatives must take place over an extended period of time.
- Professional development activities should model effective pedagogy.
- Professional development workshops must be supported by modelling and coaching in order to attain a high degree of effectiveness.
- Professional development should focus on communities of practice rather than on individual teachers.
- Effective professional development requires that continuous inquiry be embedded in the daily life of the school.
- Principals and other school leaders must provide proactive support for professional development and the initiatives upon which it is focused.[30]

Guskey, on the other hand, in a review of 13 of the better-known lists of effective professional development, found that "there appears to be little agreement among professional development researchers or practitioners regarding the criteria for effectiveness in professional development."[31]

> *To suggest that the criteria for determining the effectiveness of professional development vary depending on the intended audience implies that effectiveness, like beauty, is in the eye of the beholder. How can we advance as a profession, without at least a nominal level of consensus among policymakers, researchers, practitioners and school leaders about the criteria for judging effectiveness in professional development? Such consensus brings essential focus to the goals of professional development and provides a foundation for the kinds of systematic inquiry needed to build a professional knowledge base. Without a clear sense of professional development's goals and the evidence that best reflects attainment of those goals, improvement in the quality of educators' professional development experiences is unlikely.*[32]

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[29] Sparks (2002, pp. 1–4).
[30] Reitzug (2002).
[31] Guskey (2003, p. 5).
[32] Ibid., pp. 14–15.


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Table 1 provides an overview of views reflected in research. The table includes four different points of comparison:

- an example of a standards document (the National Staff Development Council's standards)
- an Alberta-based example (The Alberta Teachers' Association's *Professional Development Framework*)
- a government policy document (U.S. Department of Education's principles of professional development);
- a list constructed from a grounded research base (Reitzug).

This comparison emphasizes factors of effectiveness that many practitioners agree with.

The development of content area expertise, knowledge and pedagogy, as well as recognition that effective professional development requires the development of support structures and processes, are areas in which there is a high degree of consensus. Although understandings of what is involved in providing support seem to be most often associated with time and resources, many sources also recognize that support occurs within the context of the school community and involves people resources and professional development models that include mentoring and community building. This changing conception of what is required to provide effective support for professional development initiatives is reinforced by increasing agreement that professional development should be:

- contextualized within the development of collaborative learning communities
- recognize the impact of change and school improvement processes
- build in structures and processes that facilitate the development of leadership capacity.


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## Table 1: A Comparison of Indicators of Effectiveness

| **Indicators of Effectiveness** (Including Guskey's Characteristics of Effective Professional Development[33] Cited by Various Sources) | **National Staff Development Council Standards**[34] | **Alberta Teachers Association Professional Development Framework**[35] | **US Department of Education Principles**[36] | **Reitzug's Research-based Principles for Effective Professional Development**[37] |
|---|---|---|---|---|
| **Learning Communities**<br><br>5. Aligns with other reform initiatives<br><br>19. Provides for different phases of change | Staff development that improves the learning of all students organizes adults into learning communities whose goals are aligned with those of the school and district | Is responsive to changing contextual variables and therefore requires ongoing monitoring and refinement<br><br>Is based on a shared vision and clearly articulated goals<br><br>Considers the needs of the teacher, school and jurisdiction | | Professional development should focus on communities of practice rather than on individual teachers |
| **Leadership**<br><br>8. Builds leadership capacity | Staff development that improves the learning of all students requires skillful school and district leaders who guide continuous instructional improvement | | Respects and nurtures the intellectual and leadership capacity of teachers, principals and others in the school community | Principals and other school leaders must provide proactive support for professional development and the initiatives upon which it is focused |
| **Collaboration**<br><br>3. Promotes collegiality and collaboration | Staff development that improves the learning of all students provides educators with the knowledge and skills to collaborate | Engages teachers in a collegial and collaborative dialogue<br><br>Operates within and contributes to the development of collaborative learning | Focuses on teachers as central to student learning, yet includes all other members of the school community | |
| **School Culture and Organizational Improvement**<br><br>7. Is school- or site-based<br><br>11. Focuses on individual and organizational improvement<br><br>13. Is ongoing and job embedded | | Is interactive, continuous, reflective and part of the day-to-day work life of teachers<br><br>Is integral to the work of all teachers | Focuses on individual, collegial and organizational improvement<br><br>Promotes continuous inquiry and improvement embedded in the daily life of schools | |

[33] Guskey (2003).
[34] National Staff Development Council (2001).
[35] Alberta Teachers' Association (2001).
[36] U.S. Department of Education (2000).
[37] Reitzug (2002).


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| | | | | |
|---|---|---|---|---|
| **Equity**<br><br>14. Helps accommodate diversity and promote equity | Staff development that improves the learning of all students prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement | | | |
| **Research Based**<br><br>15. Based on best available research evidence | Staff development that improves the learning of all students prepares educators to apply research to decision making | Is based on research into effective teaching and learning | Reflects best available research and practice in teaching, learning and leadership | |
| **Data Driven**<br><br>10. Driven by analyses of student learning data | Staff development that improves the learning of all students uses disaggregated student data to determine adult learning priorities, monitor progress and help sustain continuous improvement | | | |
| **Learning Centred**<br><br>6. Models high-quality instruction<br><br>16. Takes a variety of forms<br><br>18. Is driven by an image of effective teaching and learning<br><br>20. Promotes continues inquiry and reflection | Staff development that improves the learning of all students applies knowledge about human learning and change | Focuses on improving teaching and supporting learning | | Professional development must be focused on instruction and student learning<br><br>Effective professional development requires that continuous inquiry be embedded in the daily life of the school |
| **Content and Pedagogy**<br><br>1. Enhances teachers' content and pedagogic knowledge<br><br>17. Provides opportunities for theoretical understanding | Staff development that improves the learning of all students deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards and prepares them to use various types of classroom assessments appropriately | Builds on teachers' established knowledge, skills and attributes<br><br>Enhances the implementation of curriculum requirements, instructional strategies and assessment techniques | Enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies and other essential elements in teaching to high standards | Professional development activities should model effective pedagogy |


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| | | | | |
|---|---|---|---|---|
| **Teacher Capacity**<br><br>9. Based on teachers' identified needs | | Encourages teachers to explore, take risks and think critically about their professional practice<br><br>Respects the professional judgment of teachers in determining their needs<br><br>Reflects the unique circumstances in which teaching takes place | Is planned collaboratively by those who will participate in and facilitate that development<br><br>Is driven by a coherent long-term plan | Decisions about professional development should be made within schools rather than at the district level |
| **Commitment**<br><br>2. Provides sufficient time and other resources<br><br>12. Includes follow-up and support | Staff development that improves the learning of all students requires resources to support adult learning and collaboration | Is supported by adequate resources, including time, funding and infrastructure | Requires substantial time and other resources | Professional development initiatives must take place over an extended period of time<br><br>Professional development workshops must be supported by modelling and coaching in order to attain a higher degree of effectiveness |
| **Community Involvement**<br><br>21. Involves families and other stakeholders | Staff development that improves the learning of all students provides educators with knowledge and skills to involve families and other stakeholders appropriately | Requires support by networks of professional development committees, specialist councils, teachers' conventions, universities and other stakeholders | | |
| **Evaluation**<br><br>4. Includes procedures for evaluation | Staff development that improves the learning of all students uses multiple sources of information to guide improvement and demonstrate its impact | | Is evaluated ultimately on the basis of its impact on teacher effectiveness and student learning, and this assessment guides subsequent professional development efforts | |

Although such lists are primarily based on expert opinions and empirical research studies, increasing recognition of the need to explore the link between what research says and how characteristics are defined point to a way of correlating and connecting the literature to research on student learning and achievement. Marzano's work on the factors that impact student achievement have implications for such a comparison. Marzano's organization of three general factors that influence student academic achievement emphasize the notion that the school is the focus for reform. The factors—school-level factors, teacher-level factors and student-level factors—provide a context for re-examining the connection between school, teacher and community actions on student learning and achievement. Although a correlation of Marzano's key factors that impact student achievement to the characteristics of professional development is subjective, it can provide a context in which indicators of effective professional development can be explored. Table 2 examines how Marzano's factors relate to the National Staff Development Council's standards.


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## Table 2: A Comparison of NSDC Standards and Research on Student Achievement

| NSDC Standards for Professional Development | Marzano's School-level Factors | Marzano's Teacher-level Factors | Marzano's Student-level Factors | Marzano's Implementation Factors |
|---|---|---|---|---|
| **Context**<br><br>Organizes adults into learning communities whose goals are aligned with those of the school and district (Learning Communities)<br><br>Requires skillful school and district leaders who guide continuous instructional improvement (Leadership)<br><br>Requires resources to support adult learning and collaboration (Resources) | | | | **Implementation Factor 2**<br>"...leadership could be considered the single most important aspect of effective school reform. It is frequently mentioned in the early research on school effectiveness... and continues to be a staple in the research.... Leadership is a necessary condition for effective reform relative to school-level, teacher-level and student-level factors." |
| **Process**<br><br>Uses disaggregated student data to determine adult learning priorities, monitor progress and help sustain continuous improvement (Data-driven)<br><br>Uses multiple sources of information to guide improvement and demonstrate its impact (Evaluation)<br><br>Prepares educators to apply research to decision making (Research-based)<br><br>Uses learning strategies appropriate to the intended goal (Design)<br><br>Applies knowledge about human learning and change (Learning)<br><br>Provides educators with the knowledge and skills to collaborate (Collaboration) | **School-level Factor 2**<br><br>"Two key elements are required to implement challenging goals and effective feedback: first, challenging goals must be established for all students; second, effective feedback must be specific and formative."<br><br>**School-level Factor 5:**<br><br>"Defining features of collegiality and professionalism include the manner in which teachers interact with one another and the nature, scope and sequence of professional development activities. Collegiality and professionalism involve interactions between teachers that are collaborative and congenial." | **Teacher-level Factor 1**<br><br>"...to successfully implement research-based instructional strategies... provide teachers with an instructional framework for units that uses research-based strategies." | **Student-level Factor 2**<br><br>"This theory base implies that academic or learned intelligence can be directly enhanced by deepening the experiential base of students and indirectly enhanced by a combined program of wide reading and direct vocabulary instruction." | **Implementation Factor 1**<br><br>"...four phases a school might experience when using the model of school-level, teacher-level, and student-level factors... [include] collecting perceptual data on the specific elements of the factors, identifying and implementing an intervention, examining the impact of the intervention on student achievement and moving to the next issue." |


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| Content | School-level Factor 4 | Teacher-level Factor 2 | Student-level Factor 1 | |
|---|---|---|---|---|
| Prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement (Equity)<br><br>Deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards and prepares them to use various types of classroom assessments appropriately (Quality Teaching)<br><br>Provides educators with knowledge and skills to involve families and other stakeholders appropriately (Family Involvement) | "…a safe and orderly environment… [is] described as a necessary but not sufficient condition for academic achievement…. [It involves] establishing ecological interventions, establishing schoolwide rules and procedures and consequences for violating those rules and procedures, establishing programs for enhancing student self-discipline and responsibility, and implementing a system for the early detection of students at risk for violence or extreme behaviour."<br><br>**School-level Factor 3**<br><br>"Where the importance of parental involvement is explicit in the research, the importance of community involvement is more implicit. Three aspects… are important to student achievement:<br>• mechanisms for communication<br>• involvement in the day-to-day running of the school<br>• use of governance structures." | "Although classroom management is on nearly every list of factors associated with student achievement, it is not a simple construct. Four integrated aspects of this factor [include]:<br>• establishing and enforcing a comprehensive list of rules and procedures<br>• using disciplinary interventions that strike a balance between positive reinforcement for appropriate behaviour and negative consequences for inappropriate behaviour<br>• establishing relationships with students that involve appropriate levels of dominance and cooperation<br>• developing the mental dispositions of 'withitness' and an emotional objectivity toward students." | "Home environment is distinguished from socioeconomic status as a specific, alterable set of behaviours that have a much stronger relationship with student achievement than do household income, occupation and education… [provide] a series of courses or trainings offered to parents…"<br><br>**Student-level Factor 3**<br><br>"The theory and research regarding student motivation was briefly reviewed as a complex set of dynamics interacting to dispose students to be motivated or highly resistant to motivation…[include] altering the competitive nature of classroom success, engaging students in long-term projects that tap into their deeply held passions, and providing students with information about motivation and training in techniques to control their motivation." | |

Marzano's factors are consistent with and support standards of effective professional development. The importance of teacher knowledge and understanding of content and pedagogy, as well as recognition of processes of leadership, collegiality and research-based strategies, are key factors of instructional improvement. Marzano's factors also support the need to address the contexts in which learning and growth occur, for both teachers and students, and the impact of family and community environments on student learning.


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## A caution

The lists of criteria for effective professional development are often referred to as a 'consensus' view of effective professional development. They are presented as voluntary, consensual and collaborative views of what makes professional development effective within a specific context. Elmore[38] presents a cautionary note of the tensions that can exist within such an approach—between individual decision making and the demands of systemic improvement, and between the issues of process, content and pedagogy as they affect student achievement.

> *In reality, deciding on who sets the purpose and focus of professional development is often conflict-ridden, especially in systems with high proportions of low-performing students. Student learning is a function, in part, of adult expectations. When educators work in schools where expectations for student achievement are chronically low or where expectations are highly differentiated, a consensus professional development plan may only institutionalize mediocrity and low performance. Hence, connecting professional development to the overall improvement of student achievement is likely to raise key issues about teaching and learning that may never arise through a process of simple consensus building.*[39]

[38] Elmore (2001).
[39] Elmore (2001, p. 9).


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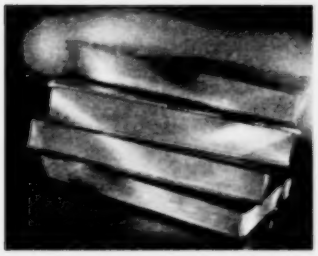
# Section 2

## Processes and approaches related to professional development



## Processes and approaches related to professional development

What approaches and models for professional development are considered effective? As Pritchard and Marshall point out, "no particular model of professional development has been verified by research as the most effective for schools."[40] However there are a number of models, as well as a growing recognition of the phases of change, that have an impact on the ways professional development experiences can be organized.

> *Many educators lack awareness about what professional development models exist and what purposes they best serve. The appropriate model might be a change process model or a skill-training model. It could involve action research, clinical supervision, reflective practitioners, distance education, learning networks and study groups or expert-presenters, to name a few of the research-based models summarized in professional literature.*[41]

As conceptions of professional development change, models for implementing initiatives become increasingly complex and address the relationships between professional development and teacher and student learning, school improvement, leadership, change and research processes. In 1990, Sparks and Loucks-Horsley identified five primary models of professional development with the training model being the most prevalent, as most of the research focused on its link to increased student performance.[42]

- Individually guided staff development. Individuals identify, plan and pursue activities they believe will support their own learning.
- Observation/assessment. Teachers are observed directly and given objective data and feedback about their classroom performance.
- Involvement in a development/improvement process. Teachers develop curriculum, design programs or become involved in school improvement processes to solve general or specific problems.
- Training. Teachers engage in individual or group instruction in which they acquire knowledge or skills.
- Inquiry. Teachers identify and collect data in an area of interest, analyze and interpret the data, and apply their findings to their own practice.

Although many of these approaches are described as models, they are essentially types of professional development. They represent different approaches to structuring or organizing a professional development experience. Reitzug's research describes four other types of professional development, including the training model.

- Training is described as the traditional, still-dominant form of professional development and comprises workshops, presentations and other types of in-service activities. Training typically includes a direct instruction/lecture component, skill demonstration and modelling and may also include simulated skill practice and even workplace coaching and consultation.
- Embedded professional development includes processes such as inquiry, discussion, evaluation, consultation, collaboration and problem solving. It may focus on teacher

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[40] Pritchard and Marshall (2002, p. 114).
[41] Ibid.
[42] Sparks, D., and Loucks-Horsley, S (1990). Quoted in Butler (1992). Retrieved from www.nwrel.org/scpd/sirs/6/cu12.html (February 19, 2005).


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roles (leader, peer coach, researcher) and include new structures (problem-solving or decision-making groups, teams) or tasks (journal or curriculum writing, case study).
- Networks are groups of educators from different schools who interact on a regular basis to discuss and share their work. They can interact through meetings, classroom visitation, institutes, critical friends groups and technology based communication methods.
- Professional Development Schools (PDS) are schools in which university faculty, PDS teachers and student teachers work collaboratively to enhance the student teaching experience and improve the professional development of PDS teachers and staff. These goals are met through active involvement of the university faculty in the school, formal professional development experiences (teacher study groups, curriculum writing, peer observation, case conferences, workshops) and through school-based collaborative research.43

Within these types of professional development, many practitioners describe a multitude of different strategies. The lists of strategies for professional development can be grouped into categories that represent approaches to organizing professional development experiences. For example, Loucks-Horsley[44] groups 15 strategies into five categories. Each category represents a particular focus and purpose:

- immersion
- curriculum
- examining practice
- collaborative work
- vehicles and mechanisms.

Although many initiatives are implicitly or explicitly grounded in a specific approach or based on an identified model, there is little consensus as to what a professional development model actually is. Is a model an approach, process or format? What are the roles of the indicators of effectiveness in such models? Although there are recurring characteristics embedded in many models, approaches and types of professional development, there are varying conceptions of what a model for professional development is. Approaches inherent within different models themselves vary. Some models are centred on the development of content knowledge or pedagogical skills. These models, although recognizing the importance of various factors, such as sustainability, collaborative environments and support structures, represent more of the training conception of professional development. Others are consensus based—they seem similar to lists of effective professional development and are based on elements that should be included in any professional development initiative. Other models are process-based—they address the processes of professional development in a broader context and recognize the impact of change, leadership and other factors that influence school improvement and student achievement.

Research has started to address the impact that school and community factors and relationships have on professional development initiatives, and is reflected in some models of professional development. Guskey and Sparks' model[45] includes factors that are within the realm of a school's sphere of influence, emphasize relationships as well as components and are explicitly linked to student achievement. Their model involves the following key components and assumptions.

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[43] Reitzug (2002).
[44] Loucks-Horsley in Sparks (1999).
[45] Guskey and Sparks (1996 & 2002).


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- Content characteristics, process variables and context characteristics affect the quality of staff development.
- The quality of staff development affects administrator knowledge and practices (school culture, clinical supervision, coaching, evaluation), teacher knowledge and practices (parent conferences, student-led conferences and guided homework), and parent knowledge and practices.
- Parent education affects parent knowledge and practices.
- Administrator knowledge and practices affect policies on curriculum, organization, textbooks, discipline, attendance, grading.
- Teacher knowledge and practices, and parent knowledge and practices, affect policies on curriculum, organization, textbooks, discipline, attendance, grading.
- Teacher knowledge and practices, parent knowledge and practices, and policies affect improved student learning outcomes.

This model exemplifies that link that practitioners and researchers are making between the research on effective professional development and models or approaches to implementing it. It is becoming increasingly common to see lists of characteristics and dimensions of effective professional development transformed into toolkits or models for implementation and delivery of professional development experiences. Such toolkits contain checklists and guidelines for ensuring that professional development practices are considered in the design and development of professional development experiences.

## Reaching for the bigger picture

Implicit within much of the work on effective professional development over the past 10 years is recognition of approaches that reflect school improvement and systemic change processes. These approaches have both influenced, and are applicable to, emerging models of effective professional development.

The body of research and theory dealing with systemic change processes has influenced views of what constitutes an effective approach to professional development. Fullan[46] suggests six guidelines for understanding the process of change.

- The goal is not to innovate the most, but rather to innovate selectively with coherence.
- It is not enough to have the best ideas, you must work through a process where others assess and come to find collective meaning and commitment to new ways.
- Appreciate early difficulties of trying something new. It is important to know, for example, that no matter how much pre-implementation preparation, the first six months or so will be bumpy.
- Redefine resistance as a potential positive force. Naysayers sometimes have good points, and they are crucial concerning the politics of implementation. This doesn't mean that you listen to naysayers endlessly, but that you look for ways to address their concerns.
- Reculturing is the name of the game. Much change is structural and superficial. The change required is in the culture of what people value and how they work together to accomplish it.
- Never a checklist, always complexity. There is no step-by-step shortcut to transformation; it involves the hard day-to-day work of reculturing.[47]

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[46] Fullan (2001b).
[47] Summarized in Fullan (2002).


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Recognizing the processes that impact the attempt to change existing conditions in districts and schools, some practitioners are attempting to formalize such processes into models of professional development. For example, Clarke and Hollingsworth's Interconnected Model[48] suggests that change occurs through the mediating processes of reflection and enactment, in four distinct domains that encompass a teacher's world:

- the personal domain (teacher knowledge, beliefs, attitudes)
- the domain of practice (professional experimentation)
- the domain of consequence (salient outcomes)
- the external domain (sources of information, stimulus or support).

The four domains are similar to those in which change is affected by a process of staff development, resulting in changes in teacher practice, student learning outcomes and teacher attitudes.

Other models incorporate steps that address the phases of change. Motivated in part by changing curriculum, and the implementation of standards and specific programs across districts and schools, some educators frame professional development initiatives around phases of change, usually including steps that involve institutionalizing the change, implementing the change and induction of or sustaining the change.[49] Associated with these approaches are change-process models, such as the Concerns-based Adoption Model, that requires educators to reflect on their stages of concern in an implementation cycle.[50] As school improvement initiatives are implemented, as districts consider how to implement new initiatives or as teachers grapple with ways to implement new curriculum, effective professional development is increasingly recognized as an essential component of ensuring that the change process has an effect on school improvement and student achievement.[51]

Other ways of viewing an approach to professional development can be centred on the processes of school improvement itself. Danielson's[52] model for effective school improvement includes four components in a circular model that addresses the relationships and movement between:

- what we want – the goals of a school as a set of organizing principles and a way of defining its direction
- what we believe – the belief structure or guiding principles that influence all aspects of the school's program
- what we know – the research base for school practices
- what we do – practices that support the school's goals, reflect its underlying values and relevant research.

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[48] Clarke and Hollingsworth (2002).
[49] The regional consortiums in Alberta and the Alberta Teachers' Association are using phases of change as a basis for developing professional development that supports the implementation of the new social studies program of studies. From conversations with consortia directors and ATA staff officers. See also Busick, Hammond and Inos (1993).
[50] Hord et al (1987). Retrieved from www.nas.edu/rise/backg4a.htm (February 18, 2005).
[51] See Richardson (2003).
[52] Danielson (2002).


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> *Professional development is at the centre of the practice of improvement. It is the process by which we organize the development and use of new knowledge in the service of improvement. I have taken a deliberately instrumental view of professional development, that it should be harnessed to the goals of the system for the improvement of student achievement, rather than driven by the preferences of individuals who work in schools.*[53]

Although these approaches to professional development emphasize different processes—change, leadership and school improvement—most tend to implicitly recognize the importance of situating professional development initiatives within the school community.[54] Professional development becomes a process of change in itself and must address the need to build capacity for change. The involvement of the school community, including parents and community members, as well as the need to develop collaborative and communicative environments[55] becomes an essential component for success.

> *When people come together to deal with practical problems, it's important for them to consider what they want to create, not just what they want to fix. This approach fosters shared aspirations. Most people in most organizations — and teachers are no exception — are obsessed with solving problems. They spend their lives trying to fix things that are broken. This obsession with problem solving diverts our attention from a far more important activity, which is creating the new. What I mean by creating is directing our energies into bringing things into reality that we really care about. And this is a profound shift, not just a semantic difference. When we're solving problems, we're trying to get rid of things we don't want. When we're creating, we are bringing into reality things that are valued by us.*[56]

There is little consensus about the effectiveness of different models or approaches to professional development and there is little empirical research that validates the effectiveness of one approach over another. The research that does exist tends to examine the effects of a single approach or practice on teacher quality and is primarily self-reported. David Collins examines the impact of different models as they are associated with the desired outcomes of the professional development experience as high, medium and low impact.[57] Much of the consensus around approaches centres on the agreement that best practice involves a variety of approaches that best meet the goals and needs of students and a school community in a specific context.

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[53] Elmore (2002, p. 32).
[54] See Little (1994). See also Richardson (2003).
[55] See Senge (2001). Retrieved from www.nsdc.org/library/publications/jsd/senge223.cfm (February 28, 2005).
[56] Ibid.
[57] Collins (2000).


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# Section 3

## Effective environments for professional development

## Effective environments for professional development

Although most of the discussion on professional development centres on the nature of the professional development itself, the factors that influence decisions that professional organizations, districts, schools and teachers make about professional development are important to consider. As educators' understanding of professional development expands, their understanding of what should be included as research on professional development is changing. Research on professional development is increasingly linked to the research on learning, school improvement and leadership. It also pays more attention to the concept and importance of learning communities and the processes involved in facilitating and developing collaborative environments. Researchers are continuing to explore the processes of professional development in the context of systemic reform.[58]

> *...a number of different paths of research on what works in professional development appear to be converging. A review of research in a number of different areas — among them, learning in general, teacher learning and development, implementation and change, organization development and policy — suggest that a number of factors leading to successful teacher learning have been clearly identified.*[59]

A traditional view of professional development as a single, uncontextualized event is incompatible with the complexity of professional development. Multiple environments for professional learning— different organizational structures and priorities, alternate methods for collaboration and communication in professional development approaches, and aligning professional development with elements such as district policy and curriculum needs, stress the importance of considering professional development through multiple lenses.[60]

> *Recent research has established that teaching and learning is not a simple cause-and-effect relationship, but rather a complex process in which learning is coconstructed by teachers and students in a specific classroom context with instruction at any point in time reflecting the teacher's analysis of the various elements in play at that moment. The complexity of teaching and learning is incompatible with the narrow, short-term, episodic, special-project focus of much of traditional staff development. Little argues that the complexity of current reforms, e.g., authentic instruction and assessment, curricular integration, achieving equity, often do not lend themselves to simple skill training, but rather require professional growth cultures in schools that permit teachers to function as intellectuals rather than technicians.*[61]

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[58] Little (1994).
[59] Loucks-Horsley and Matsumoto (1999, p. 259).
[60] See Geringer (2003).
[61] Reitzug (2002). Retrieved from www.asu.edu/educ/epsl/EPRU/documents/EPRU%202002-101/Chapter%2012-Reitzug-Final.htm (February 15, 2005).


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There are multiple levels of experience in school settings — the whole school community, teachers, students and policies and initiatives. These levels of experience are being more commonly integrated into the literature on effective professional development. Loucks-Horsley and Matsumoto[62] suggest that research that ties professional development directly to student learning outcomes points to the importance of:

- curriculum-based professional development
- focusing professional development on student thinking
- goal-focused, collaborative, supportive school and district environments
- paying attention to and aligning other elements in the system; e.g., assessment, curriculum, administrative support.

> *It is important for educators to understand that professional development cannot be prespecified in a standard format; the environment in which a program is implemented is critical. Designers need to consider contextual factors as they plan programs. Factors such as students, teachers, the physical environment, policies, resources, organizational culture, organizational structures and the local history of professional development, along with parents and the community, must be considered when developing new programs.*[63]

**Changing understandings of learning environments**

The school reform movement has had significant implications for professional development. School improvement initiatives, the importance of collaborative learning communities and issues related to diversity and equity are connected to educators' understanding of professional development. As school reform has focused more and more on questions about ways educators impact student achievement and learning, and as the purpose of effective professional development has become more centred on its impact on students, it has become increasingly evident that professional development must be considered in the context of research on school reform and improvement.

A broadening understanding of the premise that effective professional development does not happen in isolated contexts necessitates recognition of the relevance of research on student diversity. Research has explored the extent to which factors related to gender, socioeconomic contexts, race and ethnicity, language and special needs affect student achievement. Research into social and emotional learning has also impacted the way educators view the factors that affect student achievement. Professional development standards, such as those of the National Staff Development Council, recognize the need to address diversity and equity issues in professional development initiatives. Others, such as organizations, individual practitioners and researchers,[64] extend the characteristics of effectiveness by creating a practice base that outlines the design principles for effective equity-centred professional development. Malarkey[65] identifies some of these emerging characteristics.

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[62] Loucks-Horsley and Matsumoto (1999).
[63] Lee (2001). Retrieved from www.ericdigests.org/2003-1/teachers.htm (February 23, 2005).
[64] See the work of BayCES (Bay Area Coalition for Equitable Schools) at www.bayces.org/about_bayces/. Malarkey (2003) references the work of Beverly Tatum, Julian Weissglass and Asa Hilliard. See also Tharpe (2004) and Clair and Adger (1999).
[65] Malarkey (2003). Retrieved from www.bayces.org/newsletter/september/sep_feature.htm (February 16, 2005).


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- Situate professional learning in the larger social and political context of how schooling contributes to the reproduction of social inequalities by race, class, language and other characteristics.
- Habitually ask for whom are our practices working — and which students are not benefiting?
- Use the diversity of adult learners — help educators speak from their different experiences and backgrounds, and in the process build alliances across those differences in service of more equitable outcomes for students.
- Involve attentive listening and the release of painful emotions, which supports healing and clearer thinking about charged issues of oppression and inequity, and ultimately leads to action.
- Require deeper, more honest, discourse about policies, practices and behaviours and their impact on children.
- Allow educators to inquire into the most challenging issues and students they face, and increasingly "know what they don't (yet) know," and build a sense of efficacy in addressing these issues.
- Develop leadership for equity; i.e. help educators become forces for the interruption of inequities at their school and in their classrooms.

The concept of diversity within the teaching communities of the school also has implications for the development of collaborative professional environments. The need to provide opportunities to explore such diversity, and use it as a process of professional development in itself, is getting increased recognition. Of central importance is reflective practice — the ability to explicitly discuss mental models and the assumptions upon which people base their decisions and actions.[66]

> *Educators' mental models also play key roles in establishing professional learning goals and improving practice. Mental models are our beliefs and perceptions, the images and assumptions that are an important part of who we are. Some people use the terms "paradigms" or "scripts" as synonyms. Because they are often hidden from view, mental models may remain undiscussed, with their influence on behaviour unrecognized. And because they are undiscussed, it is easy to assume that everyone shares our view of reality, which is typically not the case.*[67]

Our understanding of learning itself — for both students and adults — also has a significant impact on professional development experiences.[68] Sparks emphasizes the importance of changing views of learning and the impact of constructivist learning theory on conceptions of professional development.[69] Others concur.[70] The emergence of learner-centred theory and the substantial body of research on the brain are reconceptualizing how the processes of learning are viewed. Much literature on effective professional development recognizes the importance of explicitly considering what is known about learning theory. Research in the field of cognitive

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[66] See Senge (2001). See also Sparks (2002a).
[67] Sparks (2002a). Retrieved from www.enc.org/features/focus/archive/pd/document.shtm?input=FOC-002595-index (February 28, 2005)
[68] See Danielson (2002). See also Hawley and Valli (2000) and Porter, Garet, Desimone, Yoon and Birman (2000).
[69] Sparks (2002 and 1994).
[70] See Hawley and Valli (2000). See also Richardson (2003) and Loucks-Horsley and Matsumoto (1999).


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psychology[71] adds to this knowledge base and suggests that learning contexts should be based on learning principles.

- Learning builds from and is mediated by one's existing knowledge.
- Reflection is essential to learning.
- Motivation and other affective factors play a significant role in learning.
- Learning, though unique for each person, follows some basic developmental stages.
- Learning happens as much socially and in practice as it does individually and in one's head.

> *Arguably, the most critical body of research for educators to incorporate into their practice is that on learning — after all, promoting student learning is the essential mission of schools. Only by understanding how people — both children and adults — learn, can educators hope to design instructional programs that maximize learning.*[72]

How does learning theory connect to effective professional development experiences? Darling-Hammond and Ball[73] summarize five principles that should inform learning experiences for teachers.

- Teachers' prior beliefs and experiences affect what they learn.
- Learning to teach to the new standards takes time and is not easy.
- Content knowledge is key to learning how to teach subject matter so that students understand it.
- Knowledge of children, their ideas and ways of thinking is crucial to teaching for understanding.
- Opportunities for analysis and reflection are central to learning to teach.

They assert that these principles do not form the foundation for most professional development experiences and propose four approaches that support current conceptions of effective professional development:

- integrating theory and practice
- developing professional discourse around problems of practice
- content-based professional development
- learning from the analysis of practice.

Hawley and Valli present learner-centred design principles based on the importance of the learning process. They assert that professional development must recognize "schools as complex organizations, learning as an interactive process and teachers as competent learners."[74]

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[71] Alexander and Murphy (1998). See also Hawley and Valli (2000) and Darling-Hammond and Loewenberg-Ball (1998).
[72] Danielson (2002, p. 22).
[73] Darling-Hammond and Loewenberg-Ball. (1998, p. 16).
[74] Hawley and Valli (2000).


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Professional development should:

- focus on what students are to learn and how to address the different problems students may have in learning that material
- be driven by analyses of the differences between (a) goals and standards for student learning and (b) student performance
- involve teachers in the identification of what they need to learn and, when possible, in the development of the learning opportunity and/or the process to be used
- be primarily school based and integral to school operations
- provide learning opportunities that relate to individual needs but are, for the most part, organized around collaborative problem solving
- be continuous and ongoing, involving follow-up and support for further learning, including support from sources external to the school that can provide necessary resources and outside perspectives
- incorporate evaluation of multiple sources of information on outcomes for students, and processes involved in implementing the lessons learned through professional development
- provide opportunities to engage in developing a theoretical understanding of the knowledge and skills to be learned
- be integrated with a comprehensive change process that addresses impediments to and facilitators of student learning.

**Collaborative environments and learning communities**

To some educators, the development of collaborative learning environments is the single most important factor in ensuring that professional development experiences are effective.[75] Growing recognition of the need to develop positive relationships and their impact on improved teaching practices is making its way into the literature on effective professional development. Research connected to collaborative environments and learning communities is substantial in itself — and the literature on effective professional development is making connections between school culture, collaborative working teams, learning teams, communities of teacher researchers, collaborative exchange and learning communities.[76] Findings on the effectiveness of learning communities indicate that they can provide advantages that impact classroom practice, increased teacher capacity, commitment to change and collective responsibility for student learning.[77] Effective learning communities have also been found to have an impact on student attendance, and result in increased achievement and smaller achievement gaps.[78]

> *There is broad, even remarkable, concurrence among members of the research community on the effects of carefully structured learning teams on the improvement of instruction. Add to this that such structures are probably the most practical, affordable and professionally dignifying route to better instruction in our schools.*[79]

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[75] Schmoker (2004). See also Alberta Teachers' Association (2004), Elmore (2001) and Fullan (2002).
[76] See, for example, Gamoran and Grodsky (2003); Morris, Chrispeels and Burke (2003); Sparks (2002 and 2002a); Guskey (2003 and 1995); Fullan (2002 and 2001b); Marzano (2003); Danielson (2002).
[77] See Kruse and Seashore Louis (2005). Retrieved from www.oise.utoronto.ca/orbit/core7_class_manage.html (February 16, 2005). See also Hord (1997).
[78] See Hord (1997).
[79] Schmoker (2004, p. 430).


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Elmore and others stress the importance of collaborative environments in professional development.[80] Although there is little empirical research that links collaborative processes directly with student learning and achievement, there is a relatively consistent recommendation emerging from the literature on professional development — those who share the same concerns and challenges learn more effectively if they work together in a professional development experience and teacher quality can be positively affected.

> *Professional development, in the consensus view, should be designed to develop the capacity of teachers to work collectively on problems of practice, within their own schools and with practitioners in other settings, as much as to support the knowledge and skill development of individual educators. This view derives from the assumption that learning is essentially a collaborative, rather than an individual, activity — that educators learn more powerfully in concert with others who are struggling with the same problems — and that the essential purpose of professional development should be the improvement of schools and school systems, not just the improvement of the individuals who work in them. The improvement of schools and school systems, likewise, has to engage the active support and collaboration of leaders, not just their tacit or implicit support, and this support should be manifested in decisions about the use of time and money.*[81]

## The role of leadership

As leading researchers like Fullan, Marzano and many others assert, the role of leadership is crucial to any school improvement process, including effective professional development initiatives.[82] There is a substantial body of research on characteristics of effective leadership but little that focuses explicitly on its relationship to effective professional development.[83] Connections in the research point to the necessity of effective leadership for school improvement, the establishment of viable learning communities, the development of collegial environments and the relationship to student achievement results.

> *In schools with strong leadership; dedicated people who work and learn within a community of learners; adequate resources; focused, clear goals; multiple, rich opportunities for professional learning; and a spirit of efficacy, responsibility and accountability, student achievement results increase.*[84]

Dufour[85] says that there are fundamental steps principals can take, as staff development leaders, to embed collaboration in the structure and function of their schools. They must:

- provide time for collaboration in the school day and school year
- identify critical questions to guide the work of collaborative teams
- ask teams to create products as a result of their collaboration

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[80] See Elmore (2001). See also Sparks (2002 and 2002a), Guskey (2003 and 1995), Fullan (2002 and 2001a), Marzano (2003).
[81] Elmore (2001), p. 8.
[82] See Fullan (2002), Marzano (2003), Sparks (2002a).
[83] See Clement and Vandenberghe (2001).
[84] Killion (1999, p. 78).
[85] Dufour (2001).


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- insist that teams identify and pursue specific student achievement goals
- provide teams with relevant data and information.

Fullan describes principals as "Cultural Change Principals." Cultural change principals work within a framework that consists of the personal characteristics of energy, enthusiasm and hope, and the "five essential components of leadership: moral purpose, understanding change, relationship building, knowledge creation and sharing and coherence making."[86] In general, for professional development initiatives to be effective, experts stress the importance of principals' roles as instructional and learning leaders who view professional development as a systemic effort.[87]

### The role of technology

There are two different roles technology has in connection with professional development. There is a substantial body of research on the use of professional development to increase understanding and skills in using technology to engage students and impact their learning and achievement. There is significantly smaller body of research about using technology as a way of delivering professional development initiatives, and even less on what makes it effective.

Much of the research on professional development centred on technology reflects the same principles for effective professional development seen in other research. For example, a research review conducted by the Cape Breton-Victoria Regional School Board in Nova Scotia identifies the following key elements for training teachers to use technology.[88]

- Provide sufficient learning time for teachers to learn to use computers effectively.
- Address individual teacher differences and supplement individual strengths.
- Allow flexibility in programming and instructional learning opportunities.
- Invest in individuals who are experienced in both technology and curriculum.
- Design instructional environments around collaborative problem solving and cooperative learning.
- Provide incentives, remuneration and recognition for teacher accomplishments.
- Allow for continued ongoing learning and on-the-job support.
- Provide an instructional focus that illustrates how technology can support instructional objectives.
- Design instruction that engages teachers both intellectually and professionally.
- Develop school administrators who encourage the technological development of teachers.

Technologically based delivery of professional development experiences is often associated with e-learning, online learning, networked learning and distance learning. Although there is little empirical research that assesses the effectiveness of alternative delivery of professional development, recent work is exploring the same fundamental questions of impact on teacher quality and student achievement.[89]

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[86] Fullan (2002, p. 17).
[87] See Wenglinsky (2000), Porter et al (2000), Elmore (2001).
[88] Cape Breton-Victoria School Board Web site. www.cbv.ns.ca/allan/admin/tech/iei/content/iei_3.html (February 19, 2005).
[89] See Karlson and Wright (2002). Retrieved from http://naweb.unb.ca/proceedings/2002/P6Karlsen.htm (February 22, 2005).


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*Effective online professional development (OPD) must adhere to principles that underlie all effective professional development, and also take advantage of the particular strengths of the online medium. We must consider the general question: What are the characteristics of effective professional development for educators, no matter what the medium of delivery?*[90]

Participation in projects and initiatives concerned with increasing effective use of technology in classrooms has led to the development of approaches and models for professional development specific to a technology application. Laferrière's[91] model of professional development grew out of the TeleLearning Network of Centres of Excellence, a major research and development project in Canada. It is based on the principle of teacher autonomy as well as that of learning communities involved in implementing technology, and on the teacher's role as a key element of success. The model is based on six phases that emphasize the development of strong collaborative environment:

- Phase I: developing an awareness of the network phenomenon
- Phase II: mastering Internet and Intranet resources
- Phase III: seeing new possibilities for teaching and learning
- Phase IV: establishing new classroom management routines
- Phase V: directing project-based learning
- Phase VI: knowledge-based communities.

In contrast to the literature on broad issues associated with professional development, there is a larger base of initiatives associated with the role of technology in professional development in Canada. The Canadian government's *Advisory Committee for Online Learning*, established in 1999, included a recommendation for more research into both traditional and online learning. Many provincial governments have initiatives focused on increasing effective use of technology and the creation of technology based resources for student and teacher learning. The *LearnCanada* project developed and evaluated broadband infrastructure, multimedia tools and middleware for adult learning through virtual peer-learning communities and advanced telementoring for K–12 educators.[92]

Although there is implicit agreement in the literature of the potential benefits of integrating technology into professional development delivery, there is also concern about the possibility of facilitating fragmented, incoherent and isolated learning experiences for teachers.[93]

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[90] Kleiman, Ethier, Johnson, Metrick and Treacy (2000). Retrieved from Web site www.edtechleaders.org/Resources/opd_report/genconsiderations.htm (February 16, 2005).
[91] Laferrière (1997). Retrieved from www.tact.fse.ulaval.ca/model/ang/model.html (February 28, 2005).
[92] See the LearnCanada Web site at www.learncanada.ca/description.php (February 20, 2005). A final report on the project's results is available on this Web site.
[93] See Richardson (2001).


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### A second note of caution

As both Fullan and Schmoker assert,[94] many schools suffer from the syndrome of overload or "multiple innovations colliding."[95] They say that organizations must become more selective, integrative and focused by ensuring they do not initiate too many projects, involve too many stakeholders in the initial phases and become too concerned with implementing all the recommendations for change that are part of the whole-school reform movement. Professional development initiatives are at risk for overload as well.

[94] See Fullan (2001b), Schmoker (2004).
[95] See Hatch (2000).


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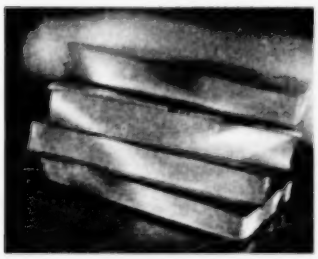
# Section 4

## Evaluation of professional development



## Evaluation of professional development

Research overwhelmingly emphasizes the goal of every professional development program as the improvement of student learning. In order to ensure professional development initiatives improve student learning, an assessment component is essential. This is increasingly recognized as a way of validating the effectiveness of any professional development initiative.

Researchers agree that if a professional development program does not improve student learning, it is not effective professional development. It may be a number of other things, such as motivational for students, collaborative for staff or evidence of leadership capacity for principals, but if it does not increase student learning, it is not effective. Over the past decade, the importance of evaluation, and the contexts in which it can occur as a critical process in professional development initiatives, has become recognized.

> *[I was told by a nationally known educator that] I couldn't link staff development and student achievement. I listened to several well-articulated reasons, which were, in essence, attempting to persuade me to settle for less than I wanted. This evaluator believed that changes in teacher attitudes or knowledge were adequate approximations for the result we strive so hard to reach — student achievement.*[96]

The importance of student outcomes as the decisive factor of an effective professional development program is substantiated by much research.[97] Views of the role of evaluation in professional development have shifted to encompass not only the use of evaluative strategies to assess effectiveness, but also the process of evaluation as professional development in itself. Evaluation as centred in the process of school improvement and collaborative decision-making is also a shift that has occurred in the past decade. Effective evaluation emphasizes the need to establish evaluation processes before professional development initiatives are implemented and to ensure the focus is on substantive issues related to teacher growth and student learning.

Although there is considerable agreement in research on the role that evaluation should play as part of effective professional development, there are a number of lists of effective professional development that do not recognize evaluation. The majority of those that do, do not provide strategies or approaches that indicate how evaluation is most effective. There is little research that addresses the effectiveness of evaluative approaches or strategies, and the validation that does exist is in the form of awards and recognition for model schools or districts. Although there are some studies based on indicators of success of these schools, most are based on self-reported data and centred on the consensus-based conception of professional development.

> *To gain authentic evidence and make serious improvements, we need to push beyond this starting point and move toward professional development's ultimate goal: improvements in student learning outcomes. These outcomes should be broadly defined to include a variety of indicators of student achievement, such as assessment results, portfolio evaluations, marks or grades, or scores from standardized examinations. They might also include affective and behavioural outcomes, such as students' attitudes, attendance rates, dropout statistics and participation in school activities.*[98]

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[96] Killion (2001), p. 1.
[97] See Marzano (2003), Sparks (2002), Killion (2001), Hawley and Valli (2000), Centre for Development and Learning (2000), Collins (2000).
[98] Guskey (2003a, p. 750).


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There are a number of challenges implicit in the literature that deal with evaluation of professional development programs on classroom practice and student achievement. Killion identifies problems relating to lack of professional knowledge of ways to effectively evaluate professional development programs, and the efficacy of strategies and practices. Other issues involve both strategies used to evaluate teacher quality and performance, and student learning and achievement. As conceptions and approaches to professional development have changed, the focus of evaluation has also shifted. Evaluation centred on more traditional conceptions of professional development, such as the training model, and research primarily centred on limitations to its effectiveness.[99] More relationally based models of professional development require a shift in evaluation strategies that are centred on process and the sustainability of change initiatives.

> *One issue is that they do not know how to evaluate their staff development programs to determine if their efforts impact student achievement. And secondly, what they are trying to evaluate is not sufficiently powerful in its design to generate any dramatic, long-term change in teacher practice and ultimately in student achievement.*[100]

Working with National Staff Development Council's *Authentic Task Approach Team*, Killion suggests that a cognizant recognition of the paradigm shift in evaluation of professional development can make the evaluation process more effective. Table 3 summarizes the change in thinking necessary for effective evaluation of professional development.

**Table 3: Paradigm Shift in Evaluating Staff Development**[101]

| From | To |
|---|---|
| Externally driven and designed | Internally driven and designed |
| Summative evaluations only | Planning, formative and summative evaluations |
| Event-based | Program-based |
| Looking for answers/solutions from others | Discovering or creating solutions and alternatives with others |
| Feared | Embraced |
| Filed/shelved | Used |
| Done as an afterthought | Planned from the beginning |
| Documentation | Evaluation |
| Process-focused | Results-focused |
| Presentation of results | Reflective dialogue |

## The question of effectiveness, again

According to a consistent consensus of expert opinion, any professional development program should be able to answer the ultimate question — "Does our professional development have a positive effect on student learning?" However, schools or districts should also explore other questions. "Why is, or is not, our program having the effect on student learning we wanted?" and "How can we change it to be more effective?"[102] One of the challenges of effective evaluation of professional development initiatives is in delineating the difference between what is required

[99] Little (1994).
[100] See Killion (2001, p. 17).
[101] Ibid.
[102] Hassel (1999).


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because of gaps in the research, and what is possible for districts, teachers and schools to evaluate. Guskey and Sparks' comprehensive article on evaluating professional development recommends a variety of factors be assessed as part of a thorough evaluation.[103] Those factors include the content of the professional development program, the quality of the activities used to introduce the content and the effect school culture has on implementation. To answer these questions, it is not enough to simply measure student achievement both before and after the fact. Schools also need to measure the underlying factors that can affect the success of professional development efforts so that changes needed in the development process can be identified. This can be complex and difficult, as professional development experiences do not happen in isolated contexts.[104]

> *Although the ultimate objective of professional development is improving student achievement as a result of increased teacher learning, testing the relationship between professional development and student achievement is problematic. Due to a variety of confounding variables, there is great difficulty in establishing a direct relationship between professional development activities, improvements in teaching and increases in student achievement. This is particularly problematic when there are a variety of other new programs, materials or interventions occurring simultaneously with professional development activities (which is essentially all the time in most schools). Further increasing the difficulty of testing the professional development-student achievement relationship are forms of professional development that go beyond the traditional training workshop format and are embedded in the daily life of the school. Guskey and Sparks observe that to explore the professional development-student achievement relationship, the content (what?), process (how?) and context (who, when, where, why?) of professional development need to be considered in the study.*[105]

As with the lists that predominate the literature on effective professional development, some organizations and districts associate lists of characteristics of effective professional development with their own standards for evaluation. Although there is no emerging consensus of the characteristics of effective evaluation, those lists based on standards such as those of the National Staff Development Council, offer a benchmark that some districts and organizations rely on. North Dakota, for example, outlines processes that provide the context for evaluation of their professional development initiatives and exemplifies an approach to evaluation that attempts to match standards to action. Their characteristics of effective professional development include the process of developing assessment mechanisms for feedback by:

- documenting the process and content
- including an evaluation of student learning
- recording changes in participant practices
- using evaluations of the program and of student learning for future planning and ongoing improvement
- sharing evaluation results with all partners and participants.
- comparing results to previously set goals.[106]

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[103] Gusky and Sparks (2001). See also Hassel (1999).
[104] See Mullins et al. (1996). See also Guskey and Sparks (2004 and 1996), Guskey (1997), Cody and Guskey (1997), Collins (2000).
[105] Reitzug (2002).
[106] North Dakota Education Standards and Practices Board (2005). Retrieved from www.nd.gov/espb/profdev/docs/prof-dev-guidelines.pdf (February 15, 2005).


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Assessing professional development in the context of goals identified by the school community, as well as its desired effects and results, is an important component of evaluation strategies. Collins[107] describes effectiveness and quality of professional development in the context of choices that are made about approaches and models. He provides questions to help educators make this link.

- Which model of professional development was used to design the program?
- Is this model appropriate for the intended outcomes?
- Are all elements of the model included?
- Does the program's design include inquiry into how learning can be improved?
- Does the program's design have a problem-solving focus?

There is consensus throughout much of the literature on the use of planning, formative and summative processes of evaluation, and the need to address evaluation before, during and after professional development experiences.[108] These processes are reflected in Guskey's five levels of professional development evaluation.[109] Although each level is important, it is also important to note that tracking the results in one level does not indicate what the results might be at the next level. Planning should occur in a backward process — in other words, focused on what students should know and be able to do.[110] Guskey's five levels include:

- participants' reaction
- participants' learning
- organizational support and change
- participants' use of new knowledge and skills
- student learning outcomes.

> *[Student learning includes]... cognitive indicators of performance and achievement, such as assessment results, portfolio evaluations, marks or grades, and scores from standardized tests. But in addition, affective measures (attitudes and dispositions) and psychomotor outcomes (skills and behaviours) may be considered as well. Examples include students' self-concepts, study habits, school attendance, homework completion rates and classroom behaviours. School-wide indicators, such as enrollment in advanced classes, memberships in honour societies, participation in school-related activities, disciplinary actions and retention or dropout rates, might also be considered.*[111]

In Kelleher's six-stage model[112] of teacher professional development, evaluation begins with teachers setting specific goals for student achievement and ending, at stage six, with reflections on how teachers have met goals for adult and student learning. In this six-stage process, Kelleher advocates multiple measures of student and adult learning. This approach to evaluation is consistent with professional development approaches that advocate reflective practice as an essential element, and recognize teachers as agents of change and as lifelong learners.

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[107] Collins (2000).
[108] See NCREL's Critical Issues series accessible at www.ncrel.org/sdrs/areas/issues/educatrs/profdevl/pd500.htm (February 23, 2005). See also Centre for Development and Learning (2000), Collins (2000), Guskey (1998).
[109] Guskey (2005, 2002 and 1998).
[110] The need to plan in a backwards process is supported by others in the literature. See Centre for Development and Learning (2000).
[111] Ibid.
[112] Kelleher (2003).


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*These measures may be both qualitative and quantitative in nature. Teachers may collect documentation throughout each stage of the professional development cycle as part of a professional development portfolio. Such a portfolio could include a SMART goal statement, notes taken while observing a colleague teach an innovative lesson, notes taken from the subsequent discussion with the teacher; a sample lesson plan, a sample assessment, a reflective journal, a videotape of a lesson or a student presentation, or the results of student assessments.*[113]

Others emphasize the important role of teacher knowledge and expertise in the evaluation process, and assert that evaluation must be must be "nonthreatening, conducted throughout various stages of implementation, and help teachers think carefully about their classroom practice."[114] Evaluation embedded within the practice of the classroom and school emphasizes the importance of learning communities in the whole professional development effort.

Other factors that affect conceptions of what constitutes effective professional development address the context in which evaluative strategies are designed. Killion asserts that external evaluation is not always best. When external funding is involved and leads to an externally driven and designed evaluation that "makes decisions about the evaluation's design, program participants feel disenfranchised and uninvolved. Evaluation, in this sense, might seem to be a mysterious process and consequently raise suspicions of those connected to the program."[115] Killion maintains there is a need for a paradigm shift towards internally driven and designed evaluation.

England's Primary National Strategy is an example of an assessment approach consistent with Killion's stance and provides a framework that school staffs can use to assess their growth. It uses a self-assessment grid, based on the principle of whole-school self-evaluation, to assess professional development needs and the effectiveness of school programs. It is based on four stages in a continuum of development and effectiveness: focusing, developing, establishing and enhancing. Descriptors provide illustrative examples for each stage of development. The assessment focuses on seven key areas:

- conditions for learning
- the use of curricular targets
- designing opportunities for learning (planning)
- strategies for day-to-day assessment in the classroom
- feedback on learning
- involving parents
- The formative use of summative assessment.[116]

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[113] Ibid.
[114] See Hawley and Valli (2000).
[115] Killion (2001, p. 5).
[116] Department for Education and Skills, UK (2005). Accessed from www.standards.dfes.gov.uk/primary/publications/learning_and_teaching/1041163/pc_assess4learn0404selfeval2.doc (February 23, 2005).


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Danielson's work[117] is another example that embeds the process of evaluation into a plan for school improvement. She presents rubrics to provide a method of evaluating systemic change and improvement efforts in schools. Her processes of evaluation are embedded within the framework for school improvement and exemplifies the need to examine models of evaluation situated within a broader context of school reform.

> *Many good things are done in the name of professional development. But so are a lot of rotten things. What professional development leaders haven't done is provide evidence to document the difference. Today, in the context of … increased demands for accountability, presenting that evidence is more important than ever.*[118]

[117] Danielson (2002).
[118] Guskey (2005).


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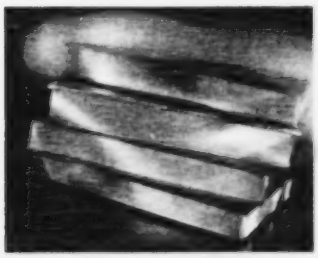
# Section 5

## Indicators of effectiveness



## Indicators of effectiveness

What are the implications of what the literature says about effective professional development for Alberta schools and school districts? As the Alberta Teachers' Association found,[119] much of the professional development across school districts and schools has occurred in the context of school improvement efforts. And as in many other jurisdictions across North America, some professional development occurring in Alberta continues to be fragmented and unconnected to meaningful contexts. Dichotomies exist between effective school improvement initiatives, growing adherence to principles of effective professional development, the growth of collaborative planning and learning communities, and inconsistent support and levels of commitment, as well as fragmented approaches to promoting systemic change. These dichotomies provide opportunities to explore recommendations such as the three that follow.

- There is a need for research that links school effectiveness, professional development and student achievement and growth.
- The importance of professional development that is sustainable and connected to meaningful, locally based contexts reiterates the strong connection developing in Alberta between school improvement initiatives, research-based inquiries such as collaborative and action research, and professional development programs.
- The importance of making informed, research-based decisions about professional development emphasizes the need for sharing, dissemination and conversation about what effective professional development should be, and how it can be implemented.

Recurring conceptions and approaches from the literature provide support for these recommendations. Although there is a substantial base of research connected to professional development that is not explored in depth in this report, there are some compelling indicators of effectiveness that emerge. Table 4 illustrates research support for these indicators.

**Table 4: Indicators of effectiveness**

| Indicators of effective professional development | Support from the literature |
|---|---|
| The purpose of professional development is centred on the improvement of student achievement and growth. | Elmore (2001); Garet, Porter, Desimone, Birman and Yoon (2001). See also Danielson (2002), Reitzug (2002), Hawley and Valli (2000). |
| Effective professional development emphasizes, and makes choices informed by, the link between teacher quality and student success. | Kent (2004), Danielson (2002), Marzano (2003), Hawley and Valli (2000), Killion (1999), Darling-Hammond (1998 and 1994), Haycock (1998), Darling-Hammond and Loewenberg-Ball (1998), Stoll and Fink (1996), Fullan (1993). |
| Effective professional development recognizes multiple contexts, formats and factors. It uses combinations of different approaches, models and mediums, based on the needs of the school community. | Guskey (2004); Richardson (2003); Pritchard and Marshall (2002); Sparks (2002); Garet, Porter, Desimone, Birman and Yoon (2001); Lee (2001); Hawley and Valli (2000); Loucks-Horsley in Sparks (1999); Laferrière (1997); Lieberman (1995). |

[119] Alberta Teachers' Association (2004).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| Indicators of effective professional development | Support from the literature |
|---|---|
| Effective professional development increases teacher knowledge and understanding about their subject area and pedagogy. | Wenglinsky (2000); Porter, Garet, Desimone, Yoon and Birman (2000); Guskey (2004); Reitzug (2002); Guskey and Sparks (2002 and 1996); Hawley and Valli (2000); Loucks-Horsley and Matsumoto (1999).<br>See also National Staff Development Council Standards (2001), Alberta Teachers' Association Framework (2002), U.S. Department of Education principles (2000). |
| Effective professional development provides sufficient time and other resources. It is purposeful, sustained and sustainable over time. | Guskey (2004), Richardson (2003), Sparks (2002), Reitzug (2002), Hawley and Valli (2000).<br>See also National Staff Development Council Standards (2001), Alberta Teachers' Association Framework (2002), U.S. Department of Education principles (2000). |
| Effective professional development focuses on increasing knowledge and skills to bring about change in teaching practice. It models high-quality instruction. It recognizes the impact teachers have on students and honours their decision-making abilities. | Guskey (2004), Reitzug (2002), Senge (2001), Loucks-Horsley and Matsumoto (1999), Boudah and Mitchell (1998).<br>See also National Staff Development Council Standards (2001), Alberta Teachers' Association Framework (2002). |
| Effective professional development recognizes the ways adults learn, and the impact of constructivist learning theory on organizations and structures for professional development. | Richardson (2003); Danielson (2002); Garet, Porter, Desimone, Birman and Yoon (2001); Senge (2001); Hawley and Valli (2000); Loucks-Horsley and Matsumoto (1999); Alexander and Murphy (1998); Darling-Hammond and Loewenberg-Ball (1998). |
| Effective professional development accommodates diversity and promotes equity in schools. | Guskey (2004), Tharpe (2004), Malarkey (2003) and Clair and Adger (1999).<br>See also National Staff Development Council Standards (2001). |
| Effective professional development is based on the best available research evidence. It explores sources and methodologies of research before basing decisions on it. | Guskey (2004), Danielson (2002), Little (1994).<br>See also Alberta Teachers' Association Framework (2002), U.S. Department of Education principles (2000). |
| Effective professional development is driven by analyses of student learning data. | Guskey (2004), Danielson (2002).<br>See also Alberta Teachers' Association Framework (2002). |
| Effective professional development involves families and other stakeholders in the professional development process. | Guskey (2004), Sparks (2002a), Senge (2001), Guskey and Sparks (2002 and 1996).<br>See also National Staff Development Council Standards (2001). |


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| Indicators of effective professional development | Support from the literature |
|---|---|
| Effective professional development promotes the development of leadership capacity, including principals, administrators and teachers. | Guskey (2004), Marzano (2003), Dufour (2001), Sparks (2002a), Reitzug (2002), Fullan (2002), Clement and Vandenberghe (2001), Elmore (2001), Wenglinsky (2000), Porter et al (2000).<br>See also National Staff Development Council Standards (2001), U.S. Department of Education principles (2000). |
| Professional development is centred in the school community and based on teachers' identified needs. It occurs within the context of the school community and involves people resources and models that include mentoring and community building. | Alberta Teachers' Association (2004); Guskey (2004); Marzano (2003); Richardson (2003); Danielson (2002); Reitzug (2002); Sparks (2002); Garet, Porter, Desimone, Birman and Yoon (2001); Senge (2001); Hawley and Valli (2000); Loucks-Horsley and Matsumoto (1999); Little (1994).<br>See also Alberta Teachers' Association Framework (2002). |
| Effective professional development involves the formation of learning communities. | Kruse and Seashore Louis (2005), Guskey (2004), Schmoker (2004), Marzano (2003), Elmore (2001), Fullan (2002), Reitzug (2002), Senge (2001), Hawley and Valli (2000), Hord (1997).<br>See also National Staff Development Council Standards (2001), Alberta Teachers' Association Framework (2002). |
| Effective professional development recognizes and explores the impact of initiatives on school culture and is centred on a goal of organizational improvement. It makes connections between school culture, collaborative working teams, learning teams, communities of teacher researchers, collaborative exchanges and learning communities. | Guskey (2004, 2003 and 1995); Gamoran and Grodsky (2003); Morris, Chrispeels and Burke (2003); Marzano (2003); Richardson (2003); Danielson (2002); Sparks (2002 and 2002a); Fullan (2002 and 2001b); Guskey and Sparks (2002 and 1996); Hawley and Valli (2000); Busick, Hammond and Inos (1993).<br>Alberta Teachers' Association Framework (2002), U.S. Department of Education principles (2000). |
| Effective professional development recognizes the impact of change on school improvement processes. Change is centred on those actions that are within a school's sphere of influence. | Fullan (2002 and 2001b), Clarke and Hollingsworth (2002), Danielson (2002), Hawley and Valli (2000). |
| Effective professional development is centred on the development and maintenance of collaborative environments. | Schmoker (2004); Elmore (2001); Hawley and Valli (2000); Fullan, Sparks and Guskey (2004);<br>Elmore (2001).<br>See also Sparks (2002 and 2002a), Guskey (2003 and 1995), Fullan (2002 and 2001a), Marzano (2003).<br>See also National Staff Development Council Standards (2001), Alberta Teachers' Association Framework (2002), U.S. Department of Education principles (2000). |


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| Indicators of effective professional development | Support from the literature |
|---|---|
| Effective professional development assesses the impact of initiatives and decisions on student outcomes. | Marzano (2003), Guskey (2005, 2003 and 2003a), Kelleher (2003), Sparks (2002), Killion (2001), Hawley and Valli (2000).<br>Darling-Hammond & Loewenberg-Ball (1998). See also Killion (1999) and Danielson (2002).<br>See also National Staff Development Council Standards (2001), U.S. Department of Education principles (2000). |
| Effective evaluation recognizes that professional development does not happen in isolation. It considers how whole-school effectiveness has a positive impact on student achievement and growth. | Department for Education and Skills, UK (2005), Gusky (2005), Marzano (2003), Danielson (2002), Pritchard and Marshall (2002), Hawley and Valli (2000).<br>Marzano's findings and conclusions are based on a multitude of research studies into the factors that affect student achievement.<br>See also Guskey and Sparks (2004 and 1996), Reitzug (2002), Mullins et al. (1996), Guskey (1997), Cody and Guskey (1997). |
| Evaluation that is embedded within the practice of the classroom and school emphasizes the importance of learning communities in the whole professional development effort. | Kelleher (2003), Danielson (2002), Killion (2001), Hawley and Valli (2000), Hassel (1999). |
| Evaluation of what makes professional development effective should be based on a variety of assessment strategies. | Guskey (2005 and 2003a), Kelleher (2003), Danielson (2002), Killion (2001), Gusky and Sparks (2001), Hassel (1999). |
| Effective evaluation uses both formative and summative processes to assess the effectiveness of professional development initiatives. | Kelleher (2003), Killion (2001).<br>See also NCREL's Critical Issues series: Accessible at www.ncrel.org/sdrs/areas/issues/educatrs/profdevl/pd500.htm |
| The processes inherent in teacher evaluation and assessment, including collaborative approaches such as mentoring and coaching, are part of effective evaluation practices for professional development initiatives. | Kelleher (2003), Danielson (2002). |


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<Effectiveness>

———. *Enhancing Teaching Practice for Student Learning: A Position Paper on Professional Development in Alberta.* Edmonton, AB: Author, 2001a.
This document describes the context of professional development in Alberta, and provides definitions and conceptions of professional development. Qualities of effective professional development programs are discussed.
<Conceptions of professional development – Effectiveness>

Alexander, P.A. and P.K. Murphy. "The Research Base for APA's Learner-Centered Psychological Principles." In N.M. Lambert and B.L. McCombs (eds.), *Issues in School Reform: A Sampler of Psychological Perspectives on Learner-Centered Schools* (Washington, DC: American Psychological Association, 1998), pp. 33–60.
When different worldviews and beliefs are held, inclusive dialogue is the process for learning. Relationships become the vehicle for change. A learner-centred perspective suggests that professionals plan, implement, manage and evaluate programs within a sociocultural and developmental framework, with an eye toward fostering lifelong learning and a genuine concern for the diverse personal, social, academic and career needs of students (Green and Keys, 2001; Sink, 2002). In this age of school-reform initiatives as well as the push for accountability, standards and high-stakes assessments, school-based group counselling is one responsive service. The article also explores ways in which these principles can be readily infused into existing small groups.
<Environments – Learning>

Bransford, J. D., A. L. Brown and R. R. Cocking (eds.). *How People Learn: Brain, Mind, Experience, and School.* Washington, DC: National Academy Press, 1999.
This report highlights five new conceptions of learning based on research that represent a shift in view about effective learning, toward learning environments that are "student centered, knowledge centered, assessment centered and community centered" (p. xvi). These conceptions also require that teachers understand pedagogy as it interacts with their specific content knowledge, recognize the role that prior knowledge plays in the learning process and understand the importance of cultural contexts in learning.
<Environments – Learning; Effectiveness>

Boudah, Daniel J. and Vickie J. Mitchell. "The Real Thing." *Journal of Staff Development* 19, 3 (1998), pp. 43–47.
This article advocates an alternative model of staff development called the Authentic Professional Development (APD) model. The model focuses on four key components




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often missing from traditional professional development: good instructional practices for adult learners, teacher empowerment, professional validity and sustainability. A preliminary evaluation of the APD model offers initial evidence that this kind of professional development can enhance teacher training, student achievement and teacher enthusiasm for staff development activities.
<Models and Approaches>

Busick, Kathleen, Mary Hammond and Rita Inos. *Synthesis of the Research on Educational Change: Parts 1–3*. Honolulu, Hawaii: Pacific Resources for Education and Learning, 1993. www.prel.org/products/Products/SynthesisPart1–3.htm (Accessed February 19, 2005).
This paper focuses on the broad phases of educational change: initiation, implementation, institutionalization and renewal. It provides educators with updated information about the change process, with a focus on the initiation phase. Research on institutionalization and renewal is discussed, including lessons from the past and present. Funding as an obstacle as well as an opportunity is considered. A final statement on what needs to be done to effect successful change concludes the document.
<Environments – Change>

Butler, Jocelyn A. "Staff development." *School Improvement Research Series: Close-Up #12*. 1992. www.nwrel.org/scpd/sirs/6/cu12.html (Accessed February 19, 2005).
It is widely assumed that improved teacher practice results in improved student performance. While there are few studies examining the important connection between staff development programs and improved student performance, a small group of studies (Gage, 1984; Sparks and Loucks-Horsley, 1990) indicate that staff development programs can have positive effect on student performance.
<Models and Approaches>

Centre for Development and Learning. *Improving Teaching, Improving Learning: Linking Professional Development to Improved Student Achievement.* Covington, LA: Author, 2000.
This report focuses on professional development as conceptualized by a group of educators, parents, professionals, and business and community leaders, intent on improving education in Louisiana.
<Models and Approaches; Evaluation>

Clair, Nancy and Carolyn Temple Adger. "Professional Development for Teachers in Culturally Diverse Schools." *Eric Online Digest*. ED435185. 1999. www.ericdigests.org/2000-3/diverse.htm.
This digest focuses on professional development for teachers in culturally diverse schools. It summarizes what is known about effective professional development and the conditions that allow it to succeed. It provides three examples of professional development grounded in the academic achievement of English language learners as a fundamental ingredient to overall school success.
<Effectiveness; Environments – Conditions>

Clark, David and Hilary Hollingsworth. "Elaborating a Model of Teacher Professional Growth." *Teaching and Teacher Education* 18, 8 (2002), pp. 947–967.
This paper details a model of teacher professional growth and relates the model to research data on which it is empirically founded. A key feature is its inclusion of four analytic domains similar to those employed by Guskey. This model identifies the specific


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mechanism by which change in one domain is associated with change in another. In its current form, this model offers a powerful framework to support the analyses of those studying teacher change and growth, and the planning of those responsible for teacher professional development.
<Models and Approaches>

Clement, Mieke and Roland Vandenberghe. "How School Leaders can Promote Teachers' Professional Development: An Account from the Field." *School Leadership and Management* 21, 1 (2001), pp. 43–57.
This article describes a research project that illustrates the processes that explain the impact of school leaders on teachers' professional development. If school leaders succeed in creating workplace conditions that offer learning opportunities and learning space, learning experiences (the milestones for professional development) will originate.
<Environments – Leadership>

Cody, C.B., and T.R. Guskey. "Professional Development." In J.C. Lindle, J.M. Petrosko and R.S. Pankratz (eds.), *1996 Review of Research on the Kentucky Education Reform Act* (Frankfort, KY: The Kentucky Institute for Education Research, 1997), pp.191–209.
This report applies Guskey's five levels of evaluation to professional development initiatives implemented at a broad level in one state. The report finds that the majority of initiatives are evaluated at level one; of the rest evaluated at a higher level, most are only at level two.
<Evaluation>

Collins, David. *Achieving Your Vision of Professional Development: How to Assess Your Needs and Get What You Want*. 3rd ed. Greensboro, NC: SERVE, 2000.
This how-to resource offers many tips to help at each stage of building an effective professional development system. The guide includes tips for developing a vision, creating a context for change, planning, investing resources, providing continual assistance, and assessing and monitoring progress. It also includes summaries of the 1997–1998 winners of the National Awards Program for Model Professional Development and five examples of model schools.
<Evaluation>

Consortium for Policy Research in Education. "A Framework for Reviewing Professional Development Policies and Practices." *Policy Brief: Helping Teachers Teach Well: Transforming Professional Development*. June, 1995.
www.ed.gov/pubs/CPRE/t61/framwork.html (Accessed February 15, 2005).
This source provides a framework for reviewing professional development policies and practices through a list of questions for districts, administrators and teachers who make decisions about professional development.
<Effectiveness>

Cook, Cathy J. and Carole S. Fine. "Evaluating Professional Growth and Development." *Critical Issue: North Central Regional Educational Laboratory*. 1997.
www.ncrel.org/sdrs/areas/issues/educatrs/ profdevl/pd500.htm (Accessed February 23, 2005).
This Web site provides a number of articles and links relating to professional development.
<Effectiveness; Environments; Evaluation>


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Danielson, Charlotte. *Enhancing Student Achievement: A Framework for School Improvement.* Alexandria, VA: Association for Supervision and Curriculum Development, 2002.
Using the four critical criteria for successful school improvement, Danielson outlines actions for educators to ensure optimum student learning, including school organization, team planning and teaching practices. Rubrics at the end of each chapter help educators evaluate how policies and programs support improvement efforts. An action planning guide provides guidelines for implementing the framework based on evidence of improvement.
<Effectiveness: Models>

Darling-Hammond, Linda. *Investing in Quality Teaching: State-level Strategies, 1999.* Denver, CO: Education Commission of the States, 1998.
Policymakers can have an impact on the quality of the teaching force if they look seriously at three issues. The first issue is setting and enforcing teaching standards. The second issue is improving teacher education and induction programs. The third issue is recruiting, developing and retaining good teachers.
<Effectiveness; Models and Approaches; Environments – School Improvement and Reform>

———. *Professional Development Schools: Schools for Developing a Profession.* New York, NY: Teachers College Press, 1994.
This book describes a trend in the school restructuring movement — the professional-development school. These schools are committed to the acquisition and sharing of knowledge among all members of the educational community and depend on research-practitioner collaboration. Contributors explain the function, structure and philosophy of the professional-development school.
<Models and Approaches>

———. "Teacher Learning that Supports Student Learning." *Educational Leadership* 55, 5 (1998a), pp. 6–11.
In response to an increasingly complex society and a rapidly changing, technology-based economy, schools are being asked to educate the most diverse student body in history to higher academic standards than ever before. This task is one that cannot be teacher-proofed through management systems, testing mandates or curriculum packages. At its root, achieving high levels of student understanding requires immensely skillful teaching and schools organized to support teachers' continuous learning. This article discusses these questions: What do teachers need to know to teach all students according to today's standards? What kinds of preservice training and ongoing professional development will make teacher success more likely?
<Effectiveness: Environments – Change>

Darling-Hammond, Linda and Deborah Loewenberg-Ball. *Teaching for High Standards: What Policymakers Need to Know and Be Able To Do.* New York, NY: National Commission on Teaching and America's Future: Consortium for Policy Research in Education (CPRE Joint Report Series), 1998.
This report discusses the relationship between teacher knowledge and student performance, summarizes research on teacher education and professional development, and examines policies and their effects. It includes a section on professional development that makes a difference. <Effectiveness>


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Darling-Hammond, Linda, and M.W. McLaughlin. "Policies that Support Professional Development in an Era of Reform." *Phi Delta Kappan* 76, 8 (1995), pp. 597–604.
This article includes strategies for implementing effective professional development and preservice programs. It discusses the benefits of professional development schools and includes policy implications on effective professional development.
<Effectiveness; Environments>

Department for Education and Skills, UK. "Learning and Teaching in the Primary Years: Professional Development Resources." *The Standards Site*. 2005. www.standards.dfes.gov.uk/primary/publications/learning_and_teaching/1041163/ (Accessed February 23, 2005).
This Web site provides documents that outline standards for professional development for primary schools in the United Kingdom.
<Evaluation>

Dufour, Rick. "In the Right Context." *Journal of Staff Development* 22, 1 (2001), pp. 14–17.
This article describes factors that influence principals' roles as effective staff development leaders.
<Effectiveness; Environments – Leadership>

Education Week. "Research Centre: Issues A-Z. Professional Development." *Editorial Projects in Education*. 2005. www.edweek.org/rc/issues/professional-development (Accessed February 15, 2005).
This Web site provides overviews of research on various topics, including professional development. www.edweek.org.
<Effectiveness>

Elmore, R. F. *Bridging the Gap Between Standards and Achievement: The Imperative for Professional Development in Education*. Washington, DC: Albert Shanker Institute, 2002.
This paper discusses implications for professional development, the connection between issues of accountability and changes in conceptions and models of professional development. It provides overviews and discussion of research in effective professional development.
<Effectiveness; Models; Environments>

Ferraro, Joan M. "Reflective Practice and Professional Development." *Eric Online Digest*. ED449120. 2000. www.ericdigests.org/2001-3/reflective.htm (Accessed February 18, 2005).
Reflective practice can be a beneficial process in teacher professional development, both for preservice and in-service teachers. This digest reviews the concept, levels, techniques and benefits of reflective practice.
<Models and Approaches>

Fullan, Michael. *Change Forces: Probing the Depth of Educational Reform*. London, GB: Falmer Press, 1993.
Debunking popular reform efforts, this book argues that education reformers are fighting a fruitless uphill battle. Neither top-down regulation nor locally based reforms will transform schooling. The insurmountable problem is juxtaposing a continuous change theme with a continuous, conservative system that defies change. In partnership with all community agencies, educators must initiate the creation of learning societies as part of a larger social agenda.
<Environments – Change and Learning Communities>


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———. "The Change Leader." *Educational Leadership* 59, 8, (2002), pp. 16–20.
This article discusses the characteristics of effective school leaders and their impact on sustainable education reform.
<Environments – Leadership>

———. "Implementing Change at the Building Level." *Michael Fullan—Change Forces; Education in Motion*. 2001a.
http://home.oise.utoronto.ca/~changeforces/Articles_01/08_01.pdf
(Accessed February 20, 2005).
Although it is becoming increasingly clear what is required to implement change that positively affects student learning at the building level, strategies are needed to increase the number of schools engaged in successful reform. If schools are left on their own, only a minority will have the capacity required to implement and sustain change. Rethinking district and state policy is necessary to simulate and support school-based capacity building.
<Environments – Change and Leadership)

———. *Leading in a Culture of Change*. San Francisco, CA: Jossey-Bass, 2001b.
"For better or worse, change arouses emotions, and when emotions intensify, leadership is key," says Fullan, dean of the Ontario Institute for Studies in Education. Leaders can improve their leadership by focusing on five components of leadership: moral purpose, understanding the change process, becoming a consummate relationship builder, knowledge creation and sharing and coherence making. He also offers insights to help understand the process of change.

Gamoran, Adam and Eric Grodsky. "The Relationship Between Professional Development and Professional Community in American Schools." *School Effectiveness and School Improvement* 14, 1 (2003), pp. 1–29.
This article discusses the use of hierarchical linear models to determine whether school-based professional development contributes to schoolwide professional community. It finds positive effects of school-sponsored professional development on professional community at both the school and individual teacher levels.
<Effectiveness; Environments – School improvement>

Garet, Michael S. et al. "What Makes Professional Development Effective? Results from a National Sample of Teachers." *American Educational Research Journal* 38, 4 (2001), pp. 915–945. http://aztla.asu.edu/ProfDev1.pdf.
This study uses a national probability sample of 1,027 mathematics and science teachers to provide the first large-scale empirical comparison of effects of different characteristics of professional development on teachers' learning. Results indicate three core features have significant, positive effects on teachers' self-reported increases in knowledge and changes in classroom practice: (a) focus on content knowledge, (b) opportunities for active learning, (c) coherence with other learning activities. The following structural features significantly affect teacher learning: (a) the form of the activity, (b) collective participation of teachers from the same school, grade or subject, (c) the duration of the activity.
<Effectiveness>


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Geringer, J. "Reflections on Professional Development: Towards High-quality Teaching and Learning." *Phi Delta Kappan* 84, 5 (2003), pp. 373–380.
This article provides numerous recommendations for improving the quality of teaching, and initiating state, district and school-level policies that entrench professional development in the daily lives of teachers. Gov. Geringer suggests these initiatives require the efforts and involvement of schools of teacher education, teachers, school administrators, certification boards, state governments, district administrators and business leaders.
<Environments – Learning Communities>

Guskey, Thomas R. "The Age of our Accountability."*Journal of Staff Development* 19, 4 (1998), pp. 36–44.
This article asserts that evaluation must become an integral part of staff development. Guskey describes the planning, formative and summative elements of evaluation of any professional development program or activity.
<Evaluation>

———. "Analyzing Lists of the Characteristics of Effective Professional Development to Promote Visionary Leadership." *Bulletin* 87, 637 (2003), pp. 4–19.
In recent years, researchers, teacher associations, national education organizations and the U.S. Department of Education have published lists of the characteristices of effective professional development to guide school leaders in their improvement efforts. This study analyzes 13 of these lists to determine whether they are derived through similar procedures, based on similar frames of reference and include the same elements or characterisitices. Results indicate that individual characteristics vary widely and that no characteristic is consistently named in all lists. Research supporting most of the identified characterisitics is inconsistent and often contradictory.
<Effectiveness>

———. "Does it Make a Difference? Evaluating Professional Development." *Educational Leadership* 59, 6 (2002), pp. 45–51.
This article describes Guskey's five levels of evaluation and provides strategies for working through each.
<Evaluation>

———. "Research Needs to Link Professional Development and Student Learning." *Journal of Staff Development* 18, 2 (1997), pp. 36–40.
Guskey summarizes initiatives on effective teacher professional development and concludes that professional development must be focused on student learners and learning.
<Evaluation>

———. "Results-oriented Professional Development: In Search of an Optimal Mix of Effective Practices." *North Central Regional Educational Laboratory*. 1995. www.ncrel.org/sdrs/areas/rpl_esys/pdlitrev.htm. (Accessed February 15, 2005).
This report provides an overview of the research on professional development, as well as six guidelines for implementing successful and effective professional development initiatives.
<Effectiveness>


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———. "Taking a Second Look at Accountability." *Journal of Staff Development* 26, 1 (2005), pp. 10–15.
Guskey revisits professional development evaluation in the context of accountability by considering three basic questions: What is evaluation? What are the purposes of evaluation? What are the critical levels of professional development evaluation?
<Evaluation>

———. "What Makes Professional Development Effective?" *Phi Delta Kappan* 84, 10 (2003a), pp. 748–750.
This article discusses the analysis of 13 lists of characteristics of effective professional development. The analysis finds little agreement is apparent among researchers or practitioners on criteria for effectiveness and urges going beyond evidence based on teacher self-reports to focus on the end goal of student achievement. The article urges identifying the strategies of effective teachers in schools and sharing them with colleagues as a basis for highly effective professional development.
<Effectiveness>

Guskey, Thomas R. and Dennis Sparks. "Exploring the Relationship Between Staff Development and Improvements in Student Learning." *Journal of Staff Development* 17, 4 (1996), pp. 34–38.
This article describes a model for exploring the complicated, multidimensional relationship between staff development and improvements in student learning. The article describes the components of the model and the factors that affect each component.
<Models and Approaches>

———. *Linking Professional Development to Improvement in Student Learning*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, April 2002.
This paper describes a theoretical model of the multidimensional relationship between professional development activities for teachers and improvement in student learning. It examines the validity and appropriateness of the model through five in-depth case studies of school-based professional development programs. The model extends the work of current researchers. The premise is that the quality of professional development is influenced by many factors, with the most important being grouped into three categories: content characteristics, process variables and context characteristics.
<Effectiveness; Models and Approaches>

Hassel, Emily. "Professional Development: Learning from the Best—A Toolkit for Schools and Districts Based on the National Awards Program for Model Professional Development." *North Central Regional Educational Laboratory*. 1999. www.ncrel.org/pd/toolkit.htm (Accessed February 17, 2005).
This toolkit takes the best practices of award-winning schools and organizes them into a step-by-step planner for designing and implementing professional development. It digs beneath award criteria and discusses how award winners won. For example, getting teachers involved in professional development design is one award criterion. This guide explains specifically how award winners got teachers involved in professional development.
<Effectiveness; Models and Approaches>


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Hatch, T. *What's Happening when Multiple Improvement Innovations Collide*? Menlo Park, CA: Carnegie Foundation for the Advancement of Teaching, 2000.
This document focuses on the effects of overload. The author asserts that most schools suffer from an overload of innovations —multiple innovations colliding. <Effectiveness>

Hawley, Willis D. and Linda Valli. "The Essentials of Effective Professional Development: A New Consensus." In Linda Darling-Hammond and Gary Sykes (eds.), *Teaching as the Learning Profession: Handbook of Policy and Practice* (San Francisco, CA: Jossey-Bass, 1999), pp. 127–150.
In this article, the authors describe "an almost unprecedented consensus... on ways to increase the knowledge and skills of educators substantially." The new consensus calls for collegial opportunities for staff learning linked to actual student performance. Eight characteristics of effective professional development are identified. The article asserts that professional development should be continuous and supported, based on theoretical understanding and collaborative problem solving, involve teachers, set explicit goals and student performance, be school based, information rich and part of a comprehensive change process.
<Effectiveness; Models and Approaches>

———. "Learner Centered Professional Development." *Research Bulletin* 27 (2000). www.pdkintl.org/edres/resbul27.htm (Accessed February 15, 2005).
One persistent finding from research on school improvement is the close relationship between professional development and school improvement efforts. The essential characteristic of effective professional development is that it involves continuous teacher and administrator learning in the context of collaborative problem solving. It occurs in planned, structured ways and in ways that are incidental and informal. Substantially strengthening teachers' opportunities to improve their teaching will require nothing less than school restructuring, new professional cultures, the reallocation of resources and time, and changes in the role of school districts and popular conceptions of how students and teachers learn.
<Effectiveness; Models and Approaches; Environments – Learning Communities; Evaluation>

Haycock, K. *Good Teaching Matters*. Washington, DC: Education Trust, 1998.
Studies indicate that the most significant factor in student achievement is the teacher. Improvements in teachers' capabilities are clearly more important to increasing student achievement, especially among poor and minority students, than any other. The article maintains that a number of large-scale studies provide convincing proof that schools — and especially teachers — really do make a difference.
<Effectiveness; Evaluation>

Hord, S.M. *Professional Learning Communities: Communities of Continuous Inquiry and Improvement.* Austin, TX: Southwest Educational Development Laboratory, 1997.
Professional learning communities can increase staff capacity to serve students but success depends on what staff do in their collective efforts. It is important to create a setting where inquiry is normal and the conditions of the workplace support continuous, collegial inquiry. This setting involves the total faculty, builds community, serves to increase student learning through the study of instruction and curriculum, and seeks to provide a nurturant organization through collective study of the health of the school.
<Environments – Learning Communities>


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Hord, Shirley M. et al. *Taking Charge of Change*, Association for Supervision and Curriculum Development, 1987. www.nas.edu/rise/backg4a.htm (Accessed February 18, 2005).
This excerpt describes a framework that has implications for the practices of professional development, acknowledges that learning brings change, and that supporting people in change is critical for learning to take hold. One model for change in individuals, the Concerns-based Adoption Model, applies to anyone experiencing change — policy makers, teachers, parents and students. The model holds that people considering and experiencing change evolve in the kinds of questions they ask and in their use of whatever the change is.
<Models; Environments – Change>

Huling, Leslie and Virginia Resta. "Teacher Mentoring as Professional Development." *Eric Online Digest*. ED460125. 2001. www.ericdigests.org/2002-3/mentoring.htm (Accessed February 16, 2005).
Teacher mentoring programs have dramatically increased since the early 1980s as a vehicle to support and retain novice teachers. The vast majority of what has been written about mentoring has focused on what mentors should believe and do in their work with novice teachers. However, facilitators of mentoring programs and researchers are recognizing that mentors also derive substantial benefits from the mentoring experience. The professional development benefits of the mentoring experience for the mentor teacher are the focus of this digest.
<Models and Approaches>

Karlsen, Gary and George Wright. "Improving E-Learning with New Applications for Video Online." In *Proceedings of the NAWeb 2002 Web–based Learning Conference, Part 8, Fredericton, NB, October 19–22, 2002.*
http://naweb.unb.ca/proceedings/2002/P6Karlsen.htm (Accessed February 22, 2005)
This paper focuses on new roles for digital video in online learning. It proposes that emerging digital video technologies may improve learning in online courses. Video objects are a unique subset in repositories of learning objects. They are dynamic and interactive, engaging and sharable. These characteristics facilitate learning through hands-on experiences, learner control, and personal and collaborative problem solving. The paper examines conditions that should be present to support the new online pedagogical applications of video. It describes teacher and learner tools that enable these processes. Teacher and learner feedback from pilot projects and field-testing are translated into a short list of new research questions for online learning.
<Environments – Technology>

Kelleher, J. "A Model for Assessment-driven Professional Development." *Phi Delta Kappan* 84, 10 (2003), pp. 751–756.
This article describes a model for professional development based on assessment strategies and processes. The standards movement underscores the need for effective professional development and pushes school districts to do cost-benefit analyses of various professional development endeavors. Though professional development is a form of adult learning, these analyses need to pivot on the real goal: student learning. Kelleher proposes a model that approaches professional development as a six-stage cycle.
<Evaluation>


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Kent, Andrea M. "Improving Teacher Quality Through Professional Development." *Education* 124, 3 (2004), pp. 427–436.
Professional development is the catalyst to transforming theory into current best-teaching practices. In order to provide effective professional development, there are many variables that must he considered by the school principal, including teacher beliefs and receptivity, the school climate, and available local school support. Ultimately, administrators must focus on linking effective professional development to teacher quality in order to yield student success.
<Effectiveness>

Killion, Joellen. *Assessing Impact: Evaluating Staff Development*. Oxford, OH: National Staff Development Council, 2001.
This resource guide will help schools, district-level staff development leaders and program coordinators plan and conduct evaluations of their staff development programs. The guide explains how planning influences the quality of evaluation, how to plan and conduct practitioner-based evaluations, how to increase the usability of evaluations, how to build the capacity of program stakeholders and how the role of stakeholders relates to the evaluation of staff development.
<Evaluation>

———. *Islands of Hope in a Sea of Dreams: A Research Report on the Eight Schools that Received the National Award for Model Professional Development*. Washington, DC: U.S. Department of Education and WestEd, 1999.
This research report summarizes a study of the eight award winning schools recognized the first two years of the National Awards Program for Model Professional Development. The study describes how teachers learn in these schools, how their learning is supported and the characteristics that allow these teachers to excel. Results from this study amplify what school reform researchers have reported about improving schools.
<Effectiveness; Environments – Leadership>

Kleiman, Terry Dash et al. "Designing and Implementing Online Professional Development Workshops." *EdTech Leaders Online*. 2000.
www.edtechleaders.org/Resources/opd_report/OPDhomepage.htm
(Accessed February 16, 2005).
This article is part of a report on online professional development. One section of the report describes guiding principles about professional development in general, different types of online professional development and considerations for integrating online workshops into an overall program of professional development.
<Environments – Technology>

Kruse, Sharon D. and Karen Seashore Louis. "Professional Communities and Learning Communities: What School Leaders Need to Know." *ORBIT* 30, 1 (1999).
www.oise.utoronto.ca/orbit/core7_class_manage.html (Accessed February 16, 2005).
Creating strong professional communities holds several potential advantages for schools. These can be categorized under three broad headings: classroom practice, satisfaction emerging from personal dignity and collective responsibility for student learning. Professional communities can allow teachers to begin the process of defining and refining their educational mission and goals. While there is likely no one centre that can capture the attention of every member of the school community, teachers and administrators can simultaneously consider a variety of closely linked complementary interests allowing individual members to participate in diverse ways.
<Environments – Learning communities>


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Laferrière, T. "A Six-phase Tentative General Model of Professional Development." In *Proceedings of the 14th International Conference on Technology and Education, Oslo, Norway*. 1997, pp. 556–558. www.tact.fse.ulaval.ca/model/ang/model.html (Accessed February 28, 2005).
This paper proposes a model of professional development that gives more power to students and pedagogues, making use of electronic equipment to inform, communicate and collaborate. This model grows out of the author's participation in the TeleLearning Network of Centres of Excellence (http://fas.sfu.ca/telelearn). One of the themes, *Educating the Educators,* aims at taking advantage of those interpersonal skills, communication and collaboration that computer technology can support. It supports building a virtual community of learners, made up of well-established partnerships, of learning activities involving high school learners, student teachers, teachers and teacher educators.
<Environments – Technology>

*LearnCanada Web site*. www.learncanada.ca (Accessed February 20, 2005).
LearnCanada is a project that developed and evaluated broadband infrastructure, multimedia tools and middleware for adult learning through virtual peer-learning communities and advanced telementoring. LearnCanada focuses on professional development of K–12 educators, but the approach is applicable to adult learners in a wider context.
<Environments – Technology>

Lee, Hea-Jin. "Enriching the Professional Development of Mathematics Teachers." *Eric Online Digest*. ED465495. 2001. www.ericdigests.org/2003-1/teachers.htm (Accessed February 23, 2005).
In the early 1970s, the goal of in-service teacher education was to bring outside expertise to teachers to increase their knowledge. In the 1980s, an overly technical and simplistic view of teaching was dominant. The current focus of professional development has widened to include not only teachers but also the organizations to which teachers belong. This digest focuses on recent strategies for enhancing professional learning as well as developing effective professional development models.
<Effectiveness; Models>

Lieberman, A. "Practices that Support Teacher Development." *Phi Delta Kappan* 76, 8 (1995), pp. 591–596.
This article explores the polices and strategies needed to develop schools' and teachers' capacities to be responsible for student learning. The author describes practices, structures and institutional arrangements that support expanded views of teaching and professional learning.
<Conceptions of professional development>

Little, Judith Warren. "Teachers' Professional Development in a Climate of Educational Reform." *Systemic Reform: Perspectives on Personalizing Education*. 1994. www.ed.gov/pubs/EdReformStudies/SysReforms/index.html (Accessed February 16, 2005).
This report discusses the problem of fit between five streams of reform and prevailing configurations of professional development. It argues that the dominant training model of teachers' professional development — focused primarily on expanding an individual repertoire of well-defined and skillful classroom practice — is not adequate to the vision of teaching and schooling embedded in present reform initiatives. Emerging alternatives to the training model embody assumptions about teacher learning and the


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transformation of schooling that appear more fully compatible with the demands of reform and the complex contexts of teaching.
<Effectiveness>

Loucks-Horsley, Susan and Carloee Matsumoto. "Research into Practice." *School Science and Mathematics* 5, 5 (1999), pp. 258–271.
This article provides information on a study about the influence of research into practice in the area of professional development. It presents a model to organize research on professional development and deals with the importance of teacher learning and expertise to student achievement and learning.
<Models and Approaches>

Malarkey, Tom. "Effective Professional Development." *Schools by Design* 1, 2. 2003. www.bayces.org/newsletter/september/sep_feature.htm. (Accessed February 16, 2005).
This article discusses how the evolution of professional development creates a map to alternative ways educators can approach learning as time and resources become scarce. Issues relating to professional learning communities, equity- and diversity-centred professional development and small schools are explored.
<Effectiveness; Environments – Diversity>

Manitoba Education. *Manitoba K–S4: Education Agenda for Student Success: What the Research Tells Us*. Winnipeg, MB: Author, 2005.
www.edu.gov.mb.ca/ks4/agenda/docs/research.html#three (Accessed February 19, 2005).
This report reviews literature that relates to how school improvement efforts contribute to advancing student success. They conclude that learner outcomes improve through the training and talent of teachers, what goes on in the classrooms, and the overall culture and atmosphere of schools. Academic skills, assignments, experience and professional development are significant dimensions for teachers. In the classroom, course content, pedagogy, technology and class size and composition make a difference. School leadership, goals, professional community, discipline and the learning environment are school-wide factors that influence student success.
<Effectiveness>

Marzano, Robert J. *What Works in Schools: Translating Research into Action*. Alexandria, VA: Association for Supervision and Curriculum Development, 2003.
This book discusses 12 key factors shown by research data to impact student achievement. Each factor is addressed in a separate chapter. Marzano includes a review and synthesis of related research spanning the past 35 years and recommends specific steps for implementing the findings.
<Effectiveness>

Morris, Meg, Janet Chrispeels and Peggy Burke. "The Power of Two: Linking External with Internal Teachers' Professional Development." *Phi Delta Kappan* 84, 10 (2003), pp. 764–766.
When teachers participate in external professional networks and internal school reform networks, the link can transform teacher learning in profound and sustainable ways. The authors show ways that content-based external networks provide opportunities for deepening teachers' content and pedagogical knowledge and take them outside the limited worlds of their own schools. Meanwhile, grade-level or interdisciplinary meetings in their own schools allow teachers to focus on their own students' work. Together, these approaches have a powerful impact, individually and collectively. The key is cooperative


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administrators who structure environments not only friendly to new ideas but also supportive of teachers sharing what they learn.
<Environments – Learning Communities>

Mullens, J. E. et al. *Student Learning, Teaching Quality and Professional Development: Theoretical Linkages, Current Measurement and Recommendations for Future Data Collection (NCES 96–28)*. Washington DC: National Center for Education Statistics, 1996.
This report examines the nature and extent of professional development activities, assesses the current National Centre for Education Statistics (NCES) collection of data and recommends ways to enhance that data collection. The appendices include referenced background materials and items from 22 surveys used by NCES and others to learn about professional development.
<Effectiveness; Evaluation>

National Dropout Prevention Centre/Network. *Professional Development*. 2004. www.dropoutprevention.org/effstrat/profdev/profdev_over.htm (Accessed February 18, 2005).
This Web site provides an overview of professional development and focuses on the resources, models and programs for effective professional development that can impact reduction of school dropout rates.
<Effectiveness; Models>

National Partnership for Excellence and Accountability in Teaching. *Revisioning Professional Development: What Learner-centred Professional Development Looks Like*. Oxford, OH: National Staff Development Council, 1999.
This report identifies the characteristics of effective professional development and examines how to address the challenges of implementing strategies to facilitate teacher learning that enhances student learning. Three factors are discussed that influence the introduction and improvement of professional development: supportive schoolwide culture and structures, systemic district level support, external policies aligned across various influences on teacher and student learning.
<Effectiveness – Influences>

National Staff Development Council. "National Standards for Staff Development." *NSDC Standards*, 2001. www.nsdc.org/standards/index.cfm (Accessed February 15, 2005).
This document provides standards that guide effective professional development: context standards, process standards and content standards.
<Effectiveness>

———. "What is Staff Development?" *Staff Development Library–Staff Development Basics*. 2005. www.nsdc.org/library/basics/whatisSD.cfm (Accessed February 15, 2005).
The Web site provides information on staff development and related topics, such as leadership, learning strategies, learning communities, resources and standards.
<Conceptions of professional development>

North Dakota Education Standards and Practices Board. *Professional Development Guidelines: Effective Practices*. 1999. www.nd.gov/espb/profdev/docs/prof-dev-guidelines.pdf (Accessed February 15, 2005).
This document provides professional development guidelines intended to assist districts in planning, implementing and assessing professional development programming. The guidelines are presented in the context of an overall school improvement process.


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<Effectiveness; Environments – School Improvement>

Ontario Ministry of Education. "Developing and Sustaining Teacher Expertise." *Early Math Strategy: The Report of the Expert Panel on Early Math in Ontario, 2003.* www.edu.gov.on.ca/eng/document/reports/math/develop.html (Accessed February 18, 2005).
This chapter of the online report discusses effective models of professional development and their impact on successful teaching of mathematics. The role of administrators, and the importance of developing teacher knowledge of mathematics through strong professional development models is discussed.
<Effectiveness; Models; Environments – Leadership>

———. "Supportive Leadership." *Early Reading Strategy: The Report of the Expert Panel on Early Reading in Ontario, 2003.* www.edu.gov.on.ca/eng/document/reports/reading/supportive.html (Accessed February 18, 2005).
This chapter of the online report discusses the role of supportive leadership in ensuring that all students become effective readers. Strong support for professional development and the links between professional development and constructive change is explored.
<Effectiveness; Environments – Leadership>

Porter, Andrew C. et al. *Does Professional Development Change Teaching Practice? Results from a Three-Year Study.* Washington, DC: U.S. Department of Education Office of the Under Secretary, 2000.
This report summarizes the results of a national study on teacher change. It describes the quality of professional development experienced by teachers in the longitudinal sample and explores the effects of professional development on teaching practice. It examines trends in teaching practice and discusses how they inform findings on the effectiveness of professional development in changing teacher instruction. The report summarizes results and suggests implications for professional development programs to increase their effectiveness in fostering teacher change.
<Effectiveness>

Pritchard, Ruie Jane and Jon C. Marshall. "Professional Development in 'Healthy' vs. 'Unhealthy' Districts: Top 10 Characteristics Based on Research." *School Leadership and Management* 22, 2 (2002), pp. 113–141.
This study investigates the characteristics of involvement in professional development at the district level — the umbrella organization for a geographic collection of schools. It examines the professional development activities in school districts in relationship to overall district health. While confirming some assumptions about what makes effective professional development, this study provides research-based evidence for what districts can do to ensure district-wide impact and bring about and sustain change. It illustrates the close association of district health and student achievement.
<Effectiveness; Environments>

Reitzug Ulrich C. "Professional Development." In A. Molnar (ed.), *School Reform Proposals: The Research Evidence.* January 2002. www.asu.edu/educ/epsl/EPRU/documents/EPRU%202002-101/Chapter%2012-Reitzug-Final.htm (Accessed February 15, 2005).
Confounding variables make it difficult to establish a direct relationship among professional development, improvements in teaching and student achievement. This chapter discusses the status quo and recent research in professional development,


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including training, experiences embedded in work, networks of educators and professional development schools. The relationship between professional development and student achievement reflects quality of the professional development processes and activities, and the efficacy of the *substance* of professional development. The chapter presents guidelines for effective professional development from the research and a set of recommendations.
<Effectiveness; Models>

Rhode Island Department of Elementary and Secondary Education. *Professional Development*. Providence, RI: Author. 2005.
www.ridoe.net/ (Accessed February 18, 2005).
This document outlines principles of effective practice in professional development developed by the Rhode Island Department of Elementary and Secondary Education. They include four key elements: culture, planning, design and evaluation of professional development initiatives.
<Effectiveness>

Richardson, Joan. "Online Staff Development has Great Possibilities – and Pitfalls." *Results*. September 2001. www.nsdc.org/library/publications/results/res9-01rich.cfm.
This article discusses the benefits and potential dangers of online professional development.
<Environments – Technology>

Richardson, V. "The Dilemmas of Professional Development: Towards High-quality Teaching and Learning." *Phi Delta Kappan* 84, 5 (2003), pp. 401–406.
This article explores why professional development programs do not incorporate features that research has shown to be effective. It suggests that the recommended practices may be at odds with America's culture of individualism.
<Effectiveness; Models and Approaches>

Schmoker, Mike. "Tipping Point: From Feckless Reform to Substantive Instructional Improvement." *Phi Delta Kappan* 85, 6 (2004), pp. 424–432.
This article points out that although educators already know the best way to improve instruction, they persist in pursuing strategies that have repeatedly failed. The author urges educators to break free of their addiction to strategic planning and large-scale reform. <Environments - Collaboration>

Senge, Peter. Quoted in Dennis Sparks, "Why Change Is So Challenging for Schools: An Interview with Peter Senge." *Journal of Staff Development* 22, 3 (2001).
www.nsdc.org/library/publications/jsd/senge223.cfm (Accessed February 28, 2005).
This article, discusses the factors that impact school improvement and effectiveness, including those that affect the development of a capacity for change. It is based on the book *Schools that Learn*.
<Models; Environments – Change>

Slavin, Robert E. "Expecting Excellence." *American School Board Journal* 188, 2 (2001), pp. 22–25.
This article explores issues associated with comprehensive school reform models as a new form of professional development that shares a commitment to whole-school change and includes extensive professional development and follow-up.
<Models>


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Sparks, Dennis. *Designing Powerful Professional Development for Teachers and Principals*. National Oxford, OH: Staff Development Council, 2002.
This book promotes a detailed vision of professional development, a deeper understanding of standard-based professional learning, clarity regarding next steps and a sense of accountability for putting improvement plans into action. The book is based on three premises: quality teaching makes a different in student learning, the professional learning of teachers and principals is a central factor in determining the quality of teaching, district structures and culture that surround the school play a critical role in determining the quality of professional learning.
<Effectiveness; Environments>

———. "A Paradigm Shift in Staff Development." *Journal of Staff Development* 15, 4. 1994. www.nsdc.org/library/publications/jsd/sparks154.cfm.
This article discusses three powerful ideas that are changing schools and the staff development that occurs within them: results-driven education, systems thinking and constructivism.
<Effectiveness>

———. "Try on Strategies to Get a Good Fit: Interview with Susan Loucks-Horsley." *Journal of Staff Development* 20, 3. 1999.
www.nsdc.org/library/publications/jsd/loucks-horsley203.cfm (Accessed February 19, 2005).
This article discusses learning strategies for teachers, most of which are applicable across the curriculum. It is important for staff development leaders to understand that there are many possible designs for adult learning.
<Models: Environments – Learning>

Stoll, L. and D. Fink. *Changing Our Schools: Linking School Effectiveness and School Improvement*. Philadelphia, PA: Open University Press, 1996.
This publication suggests that schools are learning organizations and advocates organizational learning. Successful school improvement is linked to systematically planned and executed monitoring and evaluation of process and final outcomes, where the change process itself is as important as the measurement of outcomes.
<Environments – Learning communities; school effectiveness>

Tharp, R. "Only Teachers Using Diversity Pedagogy can be 'Highly Qualified'." *Talking Leaves* 8, 1 (2004), *pp. 1, 7*.
There is a disconnect between teachers and students and this article maintains there are tools to reverse this trend. Research-based teaching methods that work effectively with students of all backgrounds have been tested and refined for the past decade by CREDE researchers. These researchers identify the challenges that cultural, racial and linguistic minorities face in the classroom, and discuss effective ways to teach these students using an approach called the Five Standards for Effective Pedagogy. The standards are distilled from best teaching practices of master teachers observed throughout the country for the past four decades.
<Environments – Diversity>

U.S. Department of Education. "Building Bridges: The Mission and Principles of Professional Development." *Goals 2000*. October 29, 2001. www.ed.gov/G2K/bridge.html (Accessed February 15, 2005).


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This document outlines principles of effective professional development, part of the Goals 2000 Legislation. High-quality professional development refers to rigorous and relevant content, strategies and organizational supports that ensure the preparation and career-long development of teachers and others whose competence, expectations and actions influence the teaching and learning environment.
<Effectiveness>

Wenglinsky, Harold. *How Teaching Matters: Bringing the Classroom Back into Discussions of Teacher Quality*. Princeton, NJ: Milken Family Foundation and Educational Testing Service, 2000.
This study finds that while teacher inputs, professional development and classroom practices all influence student achievement, the greatest role is played by classroom practices, followed by professional development specifically tailored to those practices most conducive to the high academic performance of students. In particular, when teachers make use of hands-on activities to illustrate concepts in mathematics and science, students perform better. When teachers focus on conveying higher-order thinking skills, students perform better. The study also finds that the methods teachers use to assess student progress have a similar impact on achievement. Professional development activities in hands-on learning and higher-order thinking skills are also associated with improved student performance.
<Effectiveness>


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